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SPECIAL REPORTS

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CONTENTS.

CHAPTER I.

INTRODUCTION.

Page.

Scope and method 7
Common names 9
Comparison with statistics of previous canvasses 10

CHAPTER II.

SUMMARY OF STATISTICS.

Fisheries of the United States, by states: 1908 13

CHAPTER III.

PERSONS EMPLOYED, SALARIES, AND WAGES.

Persons employed 14
Proprietors and independent fishermen 16
Wage-earners and wages 17
Comparison with prior censuses 18

CHAPTER IV.

CAPITAL AND EQUIPMENT.

Vessels and boats 19
Vessels and boats, by divisions 20
Apparatus of capture 21
Shore and accessory property and cash 21
Table 1.—Equipment and other capital: 1908 22
Table 2.—Apparatus of capture: 1908 22
Table 3.—Number, tonnage, and value of vessels and boats: 1908 23

CHAPTER V.

PRODUCTS.

Table 1.—Products, by general classes: 1908 and 1900 to 1904 26
Table 2.—Products, by species and by geographic divisions: 1908 26
Table 3.—Products, by class of fisheries, apparatus of capture, and geographic divisions: 1908 29
Table 4.—Products, by species and by apparatus of capture: 1908 30
Table 5.—Products—Detail summary, by states and by species: 1908 34
Table 6.—Products, by apparatus of capture and by states: 1908 44

CHAPTER VI.

PRODUCTS OF THE PRINCIPAL FISHERIES IN DETAIL.

Page.

Alewives 47
Bluefish 48
Buffalo fish 48
Carp 49
Catfishes 51
Clams 52
Cod 52
Crabs 54
Flounders 56
Haddock 56
Hake 57
Halibut 57
Herring 58
Lake herring 59
Lake trout 60
Lobster 61
Lobster, spiny 62
Mackerel 62
Menhaden 63
Mullets 64
Mussels 65
Oyster 66
Pike perches 68
Pollack 69
Salmon 69
Shad 71
Shrimp and prawn 72
Skins 73
Snappers 74
Sponge 74
Squeteague 74
Sturgeons 75
Whale products 76
Whitefish 77

CONTENTS.

CHAPTER VII.

FISHERIES, BY STATES.

	Page.		Page.
Alabama	79	Missouri	185
Arkansas	82	Nebraska	188
California	84	New Hampshire	189
Connecticut	91	New Jersey	189
Delaware	96	New York	195
Florida	100	North Carolina	211
Georgia	110	Ohio	217
Illinois	113	Oklahoma	221
Indiana	120	Oregon	221
Iowa	124	Pennsylvania	225
Kansas	126	Rhode Island	231
Kentucky	127	South Carolina	237
Louisiana	130	South Dakota	241
Maine	138	Tennessee	242
Maryland	145	Texas	245
Massachusetts	152	Virginia	251
Michigan	165	Washington	262
Minnesota	173	West Virginia	270
Mississippi	178	Wisconsin	270

CHAPTER VIII.

CANNING AND PRESERVING.

Comparison with earlier canvasses 280
Statistics, by geographic divisions 280
Products, by kind 281
- Salmon 282
- Sardines 283
- Cod 284
- Oysters 285
- Shrimp and prawn 285

Table 1.—Fish and oysters—value of food products: 1908 286
Table 2.—Fish and oysters—products, by geographic divisions, method of treatment, and kind: 1908 287

CHAPTER IX.

EXPORTS AND IMPORTS.

Comparison with domestic production 288
Comparison of exports and imports 288
Exports 289
Imports 290
Table 1.—Exports of domestic fishery products: 1908, 1900, and 1890 291
Table 2.—Value of exports of domestic fishery products, by country to which exported: 1908, 1900, and 1890 291
Table 3.—Imports of fishery products, by kind and country from which imported: 1908, 1900, and 1890 292
Table 4.—Value of imports of fishery products, by country from which imported: 1908, 1900, and 1890 293

APPENDICES.

Appendix A.—The fisheries of Alaska in 1908 297
Appendix B.—Schedules:
- Shore and boat fisheries 300
- Vessel fisheries 301
- Packing houses and canneries 301

Appendix C.—Instructions to special agents 303
- List and description of kinds of fish 307

LETTER OF TRANSMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF THE CENSUS,
Washington, D. C., July 27, 1911.

SIR:

The act of Congress of June 7, 1906, provides that the Bureau of the Census shall take decennially, in cooperation with the Bureau of Fisheries, a census of the fishing industry of the United States.

I have the honor to submit herewith the report on the fisheries of the United States for the calendar year 1908, which has been prepared in conformity with the requirements of this law. The report presents statistics concerning the capital invested in the industry, the number and tonnage of vessels and boats employed, the character of the apparatus used in catching fish, the number of persons employed, salaries and wages paid, and the quantity and value of the different varieties of products. Statistics of this character are collected from time to time by the Bureau of Fisheries, and as far as possible the census data have been compared with those compiled by that bureau. In order to preserve this comparability and also to comply with the requirements of the law, the Bureau of Fisheries was consulted in regard to the preparation of the schedules, and several employees of that bureau were detailed for work in the Bureau of the Census. These employees rendered valuable assistance, both in the office and in the field. The statistics were collected and the report was prepared under the supervision of Mr. William M. Steuart, chief statistician for manufactures.

Very respectfully,

E Dana Durand

Director of the Census.

Hon. CHARLES NAGEL,
Secretary of Commerce and Labor.

FISHERIES OF THE UNITED STATES.

CHAPTER I.

INTRODUCTION.

Scope and method.—The present report on the fisheries of the United States relates to the commercial fisheries of continental United States for the calendar year 1908, and is based on a canvass of these fisheries made by the Bureau of the Census in cooperation with the Bureau of Fisheries. A summary of the statistics of the fisheries of Alaska is given in the appendix on page 297, and in some of the tables in the chapter on canning and preserving figures for Alaska are included. The report is designed to cover shore fisheries, i. e., those carried on from shore or from boats of less than 5 tons; vessel fisheries, i. e., those conducted by vessels of 5 tons and over; the operations of vessels engaged in transporting fish from the fishing grounds, but not including vessels engaged in transporting fish from port to port as regular freight; and the business of packing and canning houses. The report does not cover the operations of individuals, clubs, etc., catching fish for their own consumption or for sport, or the business of those who deal in fish products simply as merchandise. The statistics are for the business year most nearly conforming to the year ending December 31, 1908; such data as relate to a fixed time, as cash on hand and value of property, relate to the beginning of the business year reported. The statistics as to the products include, besides the quantity and value of fish products proper, the number or quantity and value of aquatic mammals, reptiles, shellfish, sponges, etc., taken during the year.

The canvass was begun in January and finished in August of 1909. In order that it might be made thoroughly and rapidly, the entire country was divided into districts, to each of which one or more special agents were assigned, about 40 agents in all being employed. The Census Bureau was greatly assisted by the cooperation of the various state fish commissions and game wardens, with whom close relations were maintained. The agents were furnished with lists containing the names of fishing vessels and the names and addresses of the owners. They were instructed, however, not to confine their investigation to the names on these lists, which were prepared in some cases from records several years old, but to be constantly on the alert to discover vessels and establishments engaged in the fishing industry which were not listed. In addition to securing the information called for in the schedules each agent was required to obtain such other information as might prove valuable in determining the general condition and tendencies of the industry in the section of the country which he was canvassing.

A census of fisheries is attended perhaps with more difficulties than one of any other industry canvassed by the Bureau of the Census. Calling, as it does, for the number of persons employed and the investment in vessels, outfits, boats, and apparatus of capture both ashore and afloat, as well as the quantity and value of all commercial products of the seas, lakes, and rivers, it requires, in order that it be exhaustive, that a return be secured not only from all proprietors and firms engaged in the fishing business, but also from all independent fishermen who fish for profit. With respect to the vessel fisheries the problem was comparatively simple and the returns may be considered substantially accurate. All fishing craft of 5 tons or over are required to be documented, and as the names and home ports of these vessels are matters of record, and as such vessels are well known to the principal fishermen and fish dealers living in the district in which they operate, they and their owners could, as a rule, readily be located and canvassed. Moreover, the vessel fishermen usually make a regular business of fishing and keep books of record showing the species, amount, and value of the catch as well as other data called for in the schedules. The canvass is likewise essentially complete for the shore and boat fisheries so far as the operations of companies, firms, and individuals employing wage-earners are concerned, for these are, as a rule, located at the fishing centers and are known in the fish markets of their respective districts. The problem of securing reports from the independent fishermen, those who fish alone and do not employ others, was, however, especially difficult. These fishermen are scattered all along the coast, inlets, and waterways, many of them away from general routes of travel, and are consequently difficult of access. Their occupation takes them away from home much of the time, either in fishing or in transporting their catch to market; hence, with the corps of agents available for the work, it became a physical impossibility to make a personal canvass of each and every fisherman within a reasonable period of time, as in order to do this an agent would have had to make repeated trips to the same

locality to reach fishermen who were away at the time of former visits. In such cases the agent usually was able to secure satisfactory information from persons who were familiar with the operations of the fishermen. In addition to the difficulty just indicated in any canvass of the fisheries, a source of error arises in connection with the shore and boat fisheries from the fact that many of the shore and boat fishermen do not keep records of the catch, but give the information to the best of their recollection.

The extent to which the independent fishermen—that is, those fishing solely on their own account—figure in the returns can be seen by referring to the statistics for Alabama. Although from these statistics the total number of independent fishermen in Alabama can not be ascertained, it appears from the figures that all the 77 fishermen on interior waters and more than 600 of the 647 engaged in the shore and boat fisheries of the Gulf were independent fishermen, showing that in the aggregate over 70 per cent of the total number employed in the fisheries of the state belonged to this class. This fact throws some light upon the conditions which were met, and indicates to some extent the difficulties attending an accurate canvass.

With almost invariable courtesy the fish dealers and principal fishermen in the different cities and towns visited assisted the agents engaged in the canvass by giving them the names and locations of the independent fishermen in the surrounding territory. The agents were likewise aided by the inspectors, fish and game wardens, and other state officials conversant with the fishing industry in the several states, who supplied the names of all proprietors, firms, or independent fishermen within their spheres of observation. Through these various channels and by constant inquiry of each fisherman reporting as to other unlisted independent fishermen in the neighborhood, it was possible for the agent to extend the canvass until it is believed that reports were secured from practically all commercial fishermen. In particular, a number of schedules were secured from fishermen who, although they had followed this occupation for a number of years, claimed they had never before been canvassed. The canvass did not cover Colorado, Idaho, Montana, Nevada, North Dakota, New Mexico, Utah, or Vermont, as the commercial fisheries, if any, which existed in these states were of minor importance.

Under these conditions it is probable that some apparent inconsistencies will appear from the comparison of the statistics with those compiled by the Bureau of Fisheries. Such inconsistencies as have been detected in the analysis of the data are of minor importance and are no indication that the statistics compiled by either office are wrong. The totals compiled by both offices can be safely accepted as representing the magnitude of the fishing industry of the United States, or the particular section of the country to which they pertain.

Three schedules were used in securing the data—one for the shore and boat fisheries, one for the vessel fisheries, and one for the canning and packing houses. The tables relating to the fisheries were prepared from the information secured on the first two schedules mentioned above.

In the statistical presentation the entire country is divided into five main divisions, as follows: Atlantic coast, Gulf of Mexico, Pacific coast, Great Lakes, and the Mississippi River and its tributaries. In connection with this division, which corresponds, generally speaking, to the principal bodies of water which bound the greater part of the United States and the large river system which occupies the great central valley, it will be noted that a few states have fisheries in more than one division, as, for example, New York and Pennsylvania, which have fisheries in both the Atlantic coast and the Great Lakes divisions; Florida, which has fisheries on the Atlantic coast and also on the Gulf of Mexico; and Louisiana, which is represented in the Gulf fisheries as well as in those of the Mississippi. For purposes of comparison with previous statistics, the fisheries of the Atlantic coast are shown in a few tables in three divisions—those of the New England states, the Middle Atlantic states, and the South Atlantic states, respectively. The last-named group includes North Carolina, South Carolina, Georgia, and the east coast of Florida, and the Middle Atlantic division, all the Atlantic coast states from New York to Virginia, inclusive. In most of the states a distribution has been made according to the waters in which fishing was prosecuted; thus in Wisconsin separate statistics are presented for the fisheries of Lake Superior, Lake Michigan, and the Mississippi River and its tributaries. In Washington and in Oregon the fisheries of the Columbia River and its tributaries have been classed as a separate district, all the other waters in each of these states constituting a single district. In New York there are four divisions or fishing districts—Long Island Sound, all other waters of the Atlantic coast, Lake Erie, and Lake Ontario. On account of their importance, separate statistics are also given for the fisheries of Chesapeake Bay and its tributaries, which include portions of the fisheries of Delaware, Maryland, and Virginia, and the Susquehanna River fisheries of Pennsylvania and Maryland.

The catch has been credited to the port from which the fisherman sails, and therefore is not always credited to the state from whose waters it was taken. For example, California fishermen bring some of their catch from Alaskan waters, and Connecticut oystermen take a great many oysters from Rhode Island beds and from the New York waters of Long Island Sound.

Some 40 different kinds of apparatus of capture, including various forms of nets, pots, traps, lines, dredges, harpoons, and sponge apparatus, were used, and the tables show the principal forms employed in each division and class of fisheries.

In order to show the total meat or marketable product of all fish, crustaceans, mollusks, and aquatic animals, it has been found desirable to reduce all to the common unit of a pound, although, in the trade, certain products are usually handled on the basis of bushels, barrels, or gallons. Where these species are treated separately the common trade unit of measurement for the species or product is used. In the general tables the quantities shown for the shell-bearing mollusks are based on the amount of meat contained, the figures used for estimating the meat contents being as follows: Hard clams and surf clams or skimmers, 8 pounds of meat per bushel, soft and razor clams, cockles, winkles, and mussels, 10 pounds of meat per bushel; oysters, 7 pounds of meat per bushel; and scallops, 6 pounds of meat per bushel.

The statistics of establishments engaged in canning and preserving fish and in the manufacture of various by-products have been classified by districts and states, by principal species used, and by method of treatment, whether boned, canned, salted, smoked, dried, or frozen. On account of the great value of the output of the canneries and salteries of Alaska, the statistics of that territory as reported by the Bureau of Fisheries have been included in some of the tables in the chapter on canning and preserving.

Common names.—The confusion in connection with the common names of fishes has naturally caused more or less difficulty in tabulating statistics of fisheries for the entire country. In some instances a single species of fish is known by a number of different names in the same section as well as in different sections of the country, and it also frequently happens that a single name will represent different species of fish in different localities. It is the exception, perhaps, rather than the rule, in the case of fishes usually taken in the commercial fisheries, to find a species that is not known by more than one common name. Such names as "herring," "trout," and "perch," are frequently applied by fishermen and others in various localities to species to which they do not properly belong, or which require that the name be supplemented with some qualifying word in order to be clearly understood. Even the familiar and generally well-understood name "shad" is, in North Carolina, sometimes applied to the menhaden. In this report an effort has been made to list each species under a correct and well-established common name in the general tables, and at the same time in the tables for each state to use, so far as consistent, names which are applied locally.

Under "Albacore, or horse mackerel," are included the horse mackerel of the Atlantic coast, the tuna of California (*Thunnus thynnus*), and related species usually known as albacore. In the tables for California "albacore and tuna" includes *Thunnus thynnus* and related species, while the name "horse mackerel" is applied to *Trachurus picturatus*, as is the custom locally. The name "alewife" or "alewives" has been used exclusively to designate *Pomolobus pseudoharengus* and *P. æstivalis*, although these species are very generally known in Chesapeake Bay, Albemarle Sound, and elsewhere in the Middle and South Atlantic states as herring, and in the New England states as alewives and bluebacks, respectively. The name "herring" has been used to designate *Clupea harengus* on the Atlantic coast and *C. pallasii* on the Pacific coast, while the various species of lake herring, *Leucichthys artedi*, *L. hoyi*, and other species of *Leucichthys*, which are locally known as herring in the Great Lakes region, have been designated as "lake herring," and *L. hoyi* sometimes as "chub," or "kieye." Under "bream and sunfish" are included various species of *Lepomis* and *Eupomotis*. The name "perch" is used in the tables for Washington, Oregon, and California for the viviparous perches, *Cymatogaster aggregatus*, *Embiotoca jacksoni*, *Damalichthys argyrosomus*, and other *Embiotocidæ* or surf-fishes. The name "surf-fish" is also applied to certain species of this family, and all the species tabulated under the head "viviparous perch" are in fact surf-fishes. "Drum, fresh-water" or "drum or sheepshead" is used for *Aplodinotus grunniens*, and "drum, salt-water" for *Pogonias cromis* and *Sciænops ocellatus*. "Channel bass" is also used as a designation for this latter species. "Sheepshead" is the term used to designate *Archosargus probatocephalus*. The name "halibut" is used exclusively for *Hippoglossus hippoglossus*, while the bastard halibut (*Paralichthys californicus*) of California is not shown separately, but is included with flounders. "Hickory shad" is applied to *Pomolobus mediocris* in waters on the Atlantic coast, and to *P. chrysochloris* in rivers of the Mississippi Valley. "Shad" is not applied in this report to any species except *Alosa sapidissima*, and *A. ohiensis*, and *Brevoortia tyrrannus* is given only as "menhaden." "Jewfish" is applied to *Garrupa nigrita* on the Atlantic coast, and to *Stereolepis gigas* on the Pacific coast. The names "kingfish" and "whiting" are used for various species of *Menticirrhus* on the Atlantic coast, while in Florida "kingfish" applies to *Scomberomorus cavalla*, but in the summary tables for the United States the two names are combined as a single designation for the various species of *Menticirrhus*, the kingfish on the Pacific coast being an entirely different species. *Merluccius bilinearis* in the New England and Middle Atlantic states is frequently known by the name "whiting," but in this report that species has been designated as "silver hake." The name "pigfish," and in Virginia the name "hogfish," designate *Orthopristis chrysopterus*, and in the summary tables for the entire country the two names combined represent this species, while in the tables for Florida "hogfish" is *Lachnolaimus maximus*, which is included among the miscellaneous species in the summary statistics. In the statistics for Maine and Massachusetts the name "catfish" designates *Anarhichas lupus*, while

in the statistics for other states "catfish" represents the various species of *Siluridæ* commonly known by that name. The name "pompano" on the Atlantic coast designates *Trachinotus carolinus*, the common pompano, but in the statistics for California this name represents *Palometa simillima*, which is one of the butterfishes, and is included with the butterfishes in the summary statistics.

Comparison with statistics of previous canvasses.—Statistics of fishing industries for 1880 and 1889 were included in the reports of the Tenth and Eleventh censuses. Statistical reports on fisheries have also been issued from time to time by the Bureau of Fisheries in which only certain sections of the country are considered in any one year. The seven districts into which the United States has been divided for this purpose and the years for which statistics have been published are as follows: New England states, 1888, 1898, 1902, and 1905; Middle Atlantic states, 1888, 1892, 1897, 1901, and 1904; South Atlantic states, 1888, 1897, and 1902; Gulf states, 1888, 1890, 1897, and 1902; Pacific states, 1888, 1892, 1895, 1899, and 1904; Great Lakes 1885, 1890, 1899, and 1903; and the Mississippi River and its tributaries, 1894, 1899, and 1903. These reports show in detail the number of persons engaged in the fisheries; the investment in fishing vessels, transporting vessels, boats, various apparatus of capture, and shore and accessory property, and the amount of cash capital; and the amount and value of products by species taken and by apparatus used. In the following table are presented the comparable statistics for the United States (exclusive of Alaska) for the censuses of 1908, 1889, and 1880, and a consolidation from selected reports of the Bureau of Fisheries made for the several districts mentioned above from 1900 to 1904. For the purpose of comparison the statistics as to the number of persons employed are confined to fishermen, exclusive of shoresmen, while those relating to the capital employed are confined to that invested in vessels and their outfits, boats, and apparatus of capture, and do not include capital invested in shore and accessory property or cash capital.

It will be observed that the items for each canvass show an increase over the corresponding figures for the last preceding canvass, except that the number of fishermen for the period 1900–1904 exceeds the number for 1908; the number of vessels shown for 1889 exceeds that for either of the subsequent canvasses; and the tonnage of vessels shows a decrease at each canvass, as compared with the preceding one.

In 1880 the investment in vessels formed 47 per cent of the total reported, and the investment in boats 12 per cent, while in 1908 the investment in vessels shows a decrease in relative importance to 41 per cent of the total, and that in boats an increase to 21 per cent. The proportion represented by investment in apparatus of capture and outfit shows but little variation—41 per cent in 1880 and 38 per cent in 1908. The ratio of the capital invested to the value of products has progressively increased, the capital invested in vessels, boats, and apparatus of capture being equivalent to 63 per cent of the value of products in 1908, compared with 53 per cent in 1880.

	1908	1900–1904[1]	1889	1880
Number of fishermen, exclusive of shoresmen	141,031	151,561	134,923	95,684
Capital, not including shore and accessory property and cash	$34,099,000	$28,590,000	$23,328,000	$19,901,000
Vessels:				
Number	6,933	6,740	7,208	6,605
Tonnage	126,453	130,432	157,209	208,298
Value	$13,806,000	$11,297,000	$1,343,000	$9,357,000
Boats:				
Number	83,548	80,516	79,539	41,804
Value	$7,269,000	$5,179,000	$4,734,000	$2,405,000
Apparatus of capture and outfit	$13,025,000	$12,115,000	$8,251,000	$8,138,000
Value of products	$54,031,000	$40,398,000	$42,904,000	$37,789,000

[1] Combined statistics for the New England states, South Atlantic states, and Gulf states for 1902; Great Lakes and Mississippi River and its tributaries for 1903; Middle Atlantic states and Pacific coast states for 1904; and minor interior waters for 1900–1903.

The following table shows the value of products of the specified fisheries for certain years:

CLASS OF FISHERIES.	VALUE OF PRODUCTS.			
	1908	1900–1904[1]	1889	1880
	AMOUNT.			
Total	$54,031,000	$40,398,000	$42,780,000	$39,885,000
General fisheries	36,382,000	30,101,000	25,689,000	21,840,000
Oyster fisheries	15,713,000	16,681,000	13,294,000	13,404,000
Menhaden fisheries	893,000	1,426,000	1,818,000	2,117,000
Sponge fisheries	545,000	364,000	282,000	201,000
Whale fisheries	497,000	824,000	1,698,000	2,223,000
	PER CENT DISTRIBUTION.			
Total	100	100	100	100
General fisheries	67	61	60	57
Oyster fisheries	29	34	31	31
Menhaden fisheries	2	3	4	5
Sponge fisheries	1	1	1	1
Whale fisheries	1	2	4	5

[1] Combined statistics for the New England states, South Atlantic states, and Gulf states for 1902; Great Lakes and Mississippi River and its tributaries for 1903; Middle Atlantic states and Pacific coast states for 1904; and minor interior waters for 1900–1903.

The decline in the value of products of the whale and menhaden fisheries is marked, while large gains are shown for the value of products of the general fisheries and the sponge fisheries. The oyster fisheries show a general increase in value of products, although a larger value was reported for the period from 1900–1904 than for either 1908 or 1889.

Alaska Inv. $10,314,784 Persons 13,337 Prod $ 11,847,443

CHAPTER II.

SUMMARY OF STATISTICS.

The general statistics for the United States and for the five divisions are summarized in the following table:

	Total.	Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Mississippi River division.	Great Lakes division.	PER CENT OF TOTAL.				
							Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Mississippi River division.	Great Lakes division.
Number of persons employed	143,881	94,281	15,481	13,855	11,731	8,533	66	11	10	8	6
Capital	$42,021,000	$25,398,000	$3,901,000	$6,465,000	$1,445,000	$4,814,000	60	9	15	3	11
Vessels and boats, including outfit	25,101,000	16,553,000	2,805,000	3,544,000	547,000	1,651,000	66	11	14	2	7
Apparatus of capture	8,999,000	3,822,000	374,000	2,459,000	514,000	1,831,000	42	4	27	6	20
Shore and accessory property and cash	7,921,000	5,023,000	722,000	465,000	379,000	1,332,000	63	9	6	5	17
Value of products	54,031,000	35,474,000	4,825,000	6,839,000	3,125,000	3,767,000	66	9	13	6	7

The fisheries of the Atlantic coast division contributed nearly two-thirds of the total number of persons employed, the value of products, the capital invested in vessels and boats, and that invested in shore and accessory property, together with cash capital, though they represented a somewhat smaller proportion of the capital invested in apparatus of capture.

On account of the relatively large investment in apparatus of capture in the Pacific coast and the Great Lakes divisions, in the former chiefly in the form of the wheels and slides used in the salmon fisheries and in the latter chiefly in the form of pound nets and traps, these two divisions rank second and third, respectively, in the amount of capital employed. The investment in vessels reported for the Pacific coast division is also relatively large, as is the investment in accessory property, together with cash capital, reported for the Great Lakes division. In the value of products reported the Pacific coast fisheries rank next to those of the Atlantic coast.

Because of the prominence of the fisheries of the New England states, chiefly on account of the deep-sea fisheries, and of the Middle Atlantic states, on account of the oyster fisheries, a summary of the statistics of the Atlantic coast division by state groups is here given.

	Atlantic coast division.	New England states.	Middle Atlantic states.	South Atlantic states.	PER CENT OF TOTAL.		
					New England states.	Middle Atlantic states.	South Atlantic states.
Number of persons employed	94,281	22,157	54,163	17,961	24	57	19
Capital	$25,398,000	$11,970,000	$11,105,000	$2,324,000	47	44	9
Vessels and boats, including outfit	16,553,000	8,201,000	7,280,000	1,073,000	50	44	6
Apparatus of capture	3,822,000	1,675,000	1,578,000	569,000	44	41	15
Shore and accessory property and cash	5,023,000	2,094,000	2,248,000	682,000	42	45	14
Value of products	35,474,000	15,139,000	16,302,000	4,034,000	43	46	11

Chesapeake Bay is the most important fishing ground on the Atlantic coast. The fishermen of the Chesapeake Bay fisheries, including those of its tributary waters, formed more than one-third of the total number employed in the Atlantic coast fisheries in 1908, and the value of the products of the Chesapeake Bay fisheries constituted more than one-fifth of the value of all products of the Atlantic coast fisheries. As the fisheries of Chesapeake Bay and its tributaries cover portions of four states, a summary of the statistics, by states, is given in the following table:

	Total.	Maryland and Delaware.	Virginia.	Pennsylvania (Susquehanna River fisheries).	PER CENT OF TOTAL.		
					Maryland.	Virginia.	Pennsylvania.
Number of persons employed	35,685	17,820	17,416	449	50	49	1
Capital	$4,715,000	$2,019,000	$2,681,000	$14,000	43	57	(1)
Vessels and boats, including outfit	3,486,000	1,601,000	1,879,000	4,300	46	54	(1)
Apparatus of capture	778,000	335,000	433,000	9,800	43	56	1
Shore and accessory property and cash	452,000	84,000	369,000	300	19	82	(1)
Value of products	7,261,000	3,189,000	4,046,000	26,000	44	56	(1)

[1] Less than 1 per cent.

With the exception of the number of persons employed, Virginia leads Maryland in every respect. The number of persons employed in the Chesapeake Bay fisheries is larger than the number reported for any of the other divisions of the Atlantic coast waters. Of the total capital employed, 74 per cent represents the value of vessels and boats, including outfits, 17 per cent the value of apparatus of capture, and 10 per cent the value of shore and accessory property and cash, the investment in vessels, boats, and outfits being the largest proportionately reported for any district or subdivision. The products of the Delaware fisheries which were conducted on tributaries of Chesapeake Bay consisted principally of shad. Fourteen fishermen, using boats and apparatus of capture valued at $400, took products valued at $2,100.

The following table is a summary of the general statistics for the fisheries of the Great Lakes and their tributary waters, classified according to the six principal bodies of water comprising the division, namely: Lake Superior, Lake Michigan, Lake Huron, Lake St. Clair and the St. Clair and Detroit Rivers, Lake Erie, and Lake Ontario, with which are included the Niagara and St. Lawrence Rivers:

	Total.	Lake Superior.	Lake Michigan.	Lake Huron.	Lake St. Clair and St. Clair and Detroit Rivers.	Lake Erie.	Lake Ontario, including Niagara and St. Lawrence Rivers.	PER CENT OF TOTAL.					
								Lake Superior.	Lake Michigan.	Lake Huron.	Lake St. Clair and St. Clair and Detroit Rivers.	Lake Erie.	Lake Ontario, including Niagara and St. Lawrence Rivers.
Number of persons employed	8,533	786	2,706	1,382	221	3,142	296	9	32	16	3	37	3
Capital	$4,814,000	$391,000	$1,965,000	$733,000	$46,000	$1,644,000	$35,000	8	41	15	1	34	1
Vessels and boats, including outfit	1,651,000	149,000	692,000	185,000	10,000	603,000	11,000	9	42	11	1	37	1
Apparatus of capture	1,831,000	159,000	753,000	281,000	8,000	615,000	16,000	9	41	15	(1)	34	1
Shore and accessory property and cash	1,332,000	83,000	519,000	267,000	28,000	426,000	7,900	6	39	20	2	32	1
Value of products	3,767,000	342,000	1,554,000	486,000	32,000	1,280,000	74,000	9	41	13	1	34	2

[1] Less than 1 per cent.

Ranked according to the value of fishery products, Lake Michigan was first, with Lake Erie, Lake Huron, Lake Superior, Lake Ontario, and Lake St. Clair and its adjacent rivers following in the order named, the first two named reporting three-fourths of the total. The order was the same in respect to the amount of capital employed in the fisheries, except that Lake St. Clair and its adjacent rivers outranked Lake Ontario; and, as in the case of value of products, three-fourths of the total capital of the division was reported for Lakes Michigan and Erie. A larger number of persons employed was reported from Lake Erie than from Lake Michigan; otherwise, the lakes follow the same order in respect to this item as in the case of value of products.

SUMMARY—FISHERIES OF THE UNITED STATES, BY STATES: 1908.[1]

STATE.	Number of persons employed.	VESSELS.		BOATS.		Value of apparatus of capture.	Value of accessory property and cash.	Value of products.
		Number.	Value, including outfit.	Number.	Value.			
Total	143,881	6,933	$17,831,000	83,549	$7,269,000	$8,999,000	$7,921,000	$54,031,000
Alabama	972	61	130,000	670	34,000	23,000	82,000	387,000
Arkansas	998	6	8,100	1,154	37,000	31,000	13,000	207,000
California	4,129	60	573,000	2,121	493,000	502,000	91,000	1,970,000
Connecticut	2,147	243	994,000	1,099	118,000	84,000	1,086,000	2,982,000
Delaware	1,756	65	334,000	792	38,000	63,000	9,500	541,000
Florida	9,212	327	846,000	5,702	575,000	326,000	668,000	3,389,000
Georgia	2,525	88	90,000	2,791	79,000	55,000	185,000	701,000
Illinois	4,439	17	47,000	4,222	234,000	272,000	295,000	1,436,000
Indiana	986	2	7,700	937	16,000	28,000	22,000	223,000
Iowa	786			832	38,000	20,000	11,000	215,000
Kentucky	555			511	11,000	21,000	6,600	110,000
Louisiana	5,795	222	441,000	4,469	354,000	95,000	40,000	1,560,000
Maine	6,861	575	1,007,000	6,969	662,000	576,000	166,000	3,257,000
Maryland	18,392	1,107	1,001,000	8,493	644,000	369,000	86,000	3,396,000
Massachusetts	11,577	671	4,282,000	3,694	477,000	775,000	215,000	7,095,000
Michigan	3,472	110	327,000	1,647	267,000	821,000	599,000	1,473,000
Minnesota	934	4	16,000	689	36,000	43,000	33,000	192,000
Mississippi	2,037	206	372,000	1,144	46,000	58,000	46,000	556,000
Missouri	906			785	25,000	39,000	27,000	271,000
New Jersey	7,231	435	708,000	3,843	391,000	345,000	269,000	3,069,000
New York	6,775	643	1,750,000	3,131	308,000	362,000	1,413,000	4,594,000
North Carolina	9,681	299	282,000	4,984	251,000	367,000	370,000	1,776,000
Ohio	2,054	54	215,000	1,083	141,000	423,000	343,000	840,000
Oregon	4,772	44	140,000	2,312	367,000	795,000	65,000	1,356,000
Pennsylvania	1,250	66	254,000	333	26,000	114,000	87,000	513,000
Rhode Island	1,493	138	515,000	815	133,000	230,000	627,000	1,752,000
South Carolina	2,559	108	50,000	1,719	42,000	16,000	5,400	288,000
Tennessee	427			399	9,400	27,000	13,000	112,000
Texas	1,780	157	269,000	991	117,000	41,000	26,000	446,000
Virginia	20,066	946	1,332,000	10,942	733,000	485,000	434,000	4,716,000
Washington	4,954	190	1,594,000	2,798	377,000	1,162,000	309,000	3,513,000
Wisconsin	2,011	89	244,000	1,300	173,000	407,000	276,000	1,067,000
All other states[2]	349			308	18,000	17,000	3,900	110,000

[1] Exclusive of Alaska.

[2] Includes Kansas, Nebraska, New Hampshire, Oklahoma, South Dakota, and West Virginia.

CHAPTER III.

PERSONS EMPLOYED, SALARIES, AND WAGES.

Persons employed.—The census was intended to include a report of all persons actually engaged in commercial fishing, whether on vessels, in boats, or on the shore.

The instructions to the special agents in regard to the enumeration of the persons employed were in part as follows:

Proprietors, firm members, and independent fishermen.—Stockholders of corporations should not be reported unless they are also employees of the company. A person fishing on shares, delivering a part of the catch to another person and selling the remainder, should not be considered as an independent fisherman; in this case the person to whom a part of the catch was delivered should be considered the proprietor. It is desired to show in the report the total number of persons engaged in fishing. For this reason it is necessary to indicate whether the proprietor was actually engaged in fishing. In the great majority of cases the proprietor will be found to be so engaged, but in cases where he is not, this fact should be indicated in the space provided. If the ownership of the vessel is in shares, a number of which are held by parties who take no part in its management, these parties should be reported as "shareholders." Persons reported in inquiries 2, 3, and 4 should not be duplicated when more than one schedule is secured for operations carried on under the same ownership.

Salaried employees.—There will probably be comparatively few cases where it will be necessary to answer this inquiry. It applies only to large companies having a managing office in which records of the fishing are kept by salaried employees. Persons reported in this inquiry should not be reported on another schedule.

Vessel crew.—The regular crew, including the fishermen on the vessel, should be reported as "vessel crew." If the captain or any other member of the crew has been reported as a proprietor, he should not be reported here. Where fishermen are working on shares, it will be necessary to estimate the annual wages. Where board is provided for fishermen as part compensation, the value of provisions thus used should not be included in wages, but should be reported separately as provided for in the schedule.

The number of shoresmen reported represents only persons employed on shore in direct connection with the fisheries, and does not include those employed in secondary handling of fishery products in canneries, packing houses, and other establishments. For these reasons the number of persons reported as shoresmen is not comparable in all cases with the number shown by the Bureau of Fisheries in its various annual reports, which includes those employed in fish-packing and canning establishments. The statistics for the canneries and packing houses are given in Chapter VIII.

DIVISION AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
United States	143,881	[1] 72,030	350	71,501	$16,377,000	$319,000	[2] $16,058,000
Vessel fisheries	31,879	4,248	231	27,400	8,230,000	220,000	8,010,000
Transporting vessels	4,508	1,050	23	3,435	943,000	20,000	923,000
Shore and boat fisheries	104,644	66,732	96	37,816	6,449,000	79,000	6,370,000
Shoresmen	2,850	.....	.....	2,850	755,000	.....	755,000
Atlantic coast division	94,281	45,659	219	48,403	9,904,000	184,000	9,720,000
Vessel fisheries	24,631	3,469	169	20,993	5,715,000	156,000	5,559,000
Transporting vessels	3,595	974	5	2,616	618,000	4,100	614,000
Shore and boat fisheries	64,301	41,216	45	23,040	3,152,000	23,900	3,128,000
Shoresmen	1,754	.....	.....	1,754	418,000	.....	418,000
Gulf of Mexico division	15,481	5,896	52	9,533	2,349,000	57,000	2,292,000
Vessel fisheries	3,970	352	26	3,592	1,040,000	35,000	1,004,000
Transporting vessels	396	36	18	342	134,000	16,000	117,000
Shore and boat fisheries	10,577	5,508	8	5,061	1,042,000	5,700	1,036,000
Shoresmen	538	.....	.....	538	134,000	.....	134,000
Pacific coast division	13,855	6,904	39	6,912	2,264,000	51,000	2,213,000
Vessel fisheries	1,754	96	15	1,643	900,000	14,000	886,000
Transporting vessels	368	19	.....	349	140,000	.....	140,000
Shore and boat fisheries	11,626	6,789	24	4,813	1,175,000	37,000	1,138,000
Shoresmen	107	.....	.....	107	49,000	.....	49,000
Great Lakes division	8,533	4,402	26	4,106	1,345,000	18,000	1,327,000
Vessel fisheries	1,494	325	15	1,154	566,000	10,000	556,000
Transporting vessels	78	10	.....	68	30,000	.....	30,000
Shore and boat fisheries	6,600	4,067	10	2,523	623,000	8,200	615,000
Shoresmen	361	.....	.....	361	127,000	.....	127,000
Mississippi River division	11,731	9,169	15	2,547	515,000	9,000	506,000
Vessel fisheries	30	6	6	18	9,300	4,200	5,100
Transporting vessels	71	11	.....	60	21,000	.....	21,000
Shore and boat fisheries	11,540	9,152	9	2,379	457,000	4,800	453,000
Shoresmen	90	.....	.....	90	27,000	.....	27,000

[1] Exclusive of 2,952 proprietors not fishing.

[2] Includes provisions furnished to the value of $1,808,000.

The inquiry called for the number of proprietors, firm members, and individual fishermen to be reported separately, and also for a separate report of the salaried employees, such as officers, managers, and clerks. The wage-earners were returned as (*a*) vessel fishermen, (*b*) shore and boat fishermen, and (*c*) shoresmen. An estimate was also obtained of the cost of provisions supplied to employees, which is shown separately and also included in the amount shown for salaries or wages.

The preceding table summarizes the statistics for persons employed and salaries and wages paid, by geographic divisions and by the main branches of the industry:

Of the total number of persons engaged in the fishing industry in the United States in 1908, 25 per cent were employed on fishing and transporting vessels, 73 per cent in the shore and boat fisheries, and 2 per cent as shoresmen, directly connected with the catching of fish. In addition to the foregoing there were 2,952 proprietors not engaged in fishing.

DIVISION AND CLASS.	PERSONS EMPLOYED: 1908.						
	Per cent distribution.				Per cent of total.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.
United States	100	100	100	100	50	(1)	50
Vessel fisheries	22	6	66	38	13	1	86
Transporting vessels	3	1	*7	5	23	1	76
Shore and boat fisheries	73	93	27	53	64	(1)	35
Shoresmen	2	.....	.....	4	.....	.....	100
Atlantic coast division	66	63	63	68	48	(1)	51
Gulf of Mexico division	11	8	15	13	38	(1)	62
Pacific coast division	10	10	11	10	50	(1)	50
Great Lakes division	6	6	7	6	52	(1)	48
Mississippi River division	8	13	4	4	78	(1)	22

[1] Less than 1 per cent.

The Atlantic coast division was by far the most important in the United States, giving occupation to 66 per cent of all the persons engaged in fishing. The next in importance of the fisheries districts was the Gulf of Mexico division, where 11 per cent of the total number were employed. The Pacific coast division, the Mississippi River division, and the Great Lakes division follow in the order named. The next table gives the distribution of persons employed in the Atlantic coast division, according to groups of states.

More than one-fourth of the total number of persons engaged in fishing in the Atlantic coast division in 1908 were employed in the vessel fisheries and on transporting vessels, and more than two-thirds in the shore and boat fisheries, while less than 2 per cent were shoresmen. In vessel fisheries and on transporting vessels combined, over four-fifths of the persons employed were wage-earners, as compared with only a little more than one-third of those employed in the shore and boat fisheries.

Each of the three groups of states comprising the Atlantic coast division employed more fishermen than any one of the four other geographic divisions into which the country is divided. More than one-half of the fishermen of the Atlantic coast division were employed in the fisheries of the Middle Atlantic states, nearly one-fourth in those of the New England states, and about one-fifth in those of the South Atlantic states.

In New England the vessel fisheries predominated, a fact which was not true of any other group of states for which statistics are presented. It follows that in this group of states the total number of wage-earners and salaried employees was large, as compared with the total number of proprietors and independent fishermen. From the excess of the number of proprietors and independent fishermen over the number of wage-earners in the shore and boat fisheries it is evident that there were more than 6,000 independent fishermen.

In the Middle Atlantic states over 70 per cent of the persons employed were in the shore and boat fisheries. In the South Atlantic states the number of persons employed in the vessel fisheries was relatively small. Only 1,973 persons, or 11 per cent of the total number, were on fishing and transporting vessels.

STATE GROUP AND CLASS.	PERSONS EMPLOYED IN ATLANTIC COAST DIVISION: 1908. Number. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Salaries and wages. Total.	Salaries.	Wages.
Atlantic coast division	94,281	45,659	219	48,403	$9,904,000	$184,000	$9,720,000
Vessel fisheries	24,631	3,409	169	20,993	5,715,000	156,000	5,559,000
Transporting vessels	3,595	974	5	2,616	618,000	4,100	614,000
Shore and boat fisheries	64,301	41,216	45	23,040	3,152,000	23,000	3,128,000
Shoresmen	1,754			1,754	418,000		418,000
New England states	22,157	9,740	85	12,332	4,296,000	90,000	4,206,000
Vessel fisheries	10,652	1,219	72	9,361	3,420,000	80,000	3,340,000
Transporting vessels	535	92	2	441	206,000	2,500	206,000
Shore and boat fisheries	10,383	8,429	11	2,143	515,000	7,700	505,000
Shoresmen	387			387	155,000		155,000
Middle Atlantic states	54,163	26,350	102	27,511	4,459,000	75,000	4,385,000
Vessel fisheries	12,474	2,118	77	10,279	2,076,000	61,000	2,015,000
Transporting vessels	2,592	766	3	1,823	356,000	1,000	354,000
Shore and boat fisheries	38,153	23,666	22	14,465	1,822,000	12,000	1,810,000
Shoresmen	944			944	205,000		205,000
South Atlantic states	17,961	9,369	32	8,560	1,148,000	19,000	1,129,000
Vessel fisheries	1,505	132	20	1,353	219,000	16,000	203,000
Transporting vessels	468	116		352	54,000		54,000
Shore and boat fisheries	15,565	9,121	12	6,432	816,000	3,500	813,000
Shoresmen	423			423	58,000		58,000

STATE GROUP AND CLASS.	PERSONS EMPLOYED IN ATLANTIC COAST DIVISION: 1908—continued. Per cent distribution. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Per cent of total. Proprietors and independent fishermen.	Salaried employees.	Wage-earners.
Atlantic coast division	100	100	100	100	48	(1)	51
Vessel fisheries	26	8	77	43	14	1	85
Transporting vessels	4	2	2	5	27	(1)	73
Shore and boat fisheries	68	90	21	48	64	(1)	36
Shoresmen	2			4			100
New England states	23	21	39	25	44	(1)	56
Middle Atlantic states	57	58	47	57	49	(1)	51
South Atlantic states	19	21	15	18	52	(1)	48

[1] Less than 1 per cent.

The following tabular statement shows the number of persons engaged in the several classes of employment connected with the fisheries of Chesapeake Bay, the chief fishing ground of the Middle Atlantic states, and their distribution by states:

CLASS.	PERSONS EMPLOYED IN CHESAPEAKE BAY DISTRICT: 1908. Total.	Maryland and Delaware.	Virginia.	Pennsylvania (Susquehanna River fisheries).
Total	35,685	17,820	17,416	449
Vessel fisheries	7,016	4,046	2,970	.....
Transporting vessels	1,953	975	978	.....
Shore and boat fisheries	26,486	12,723	13,314	449
Shoresmen	230	76	154	.....

The persons engaged in these fisheries were about equally divided between Maryland and Virginia, the few which are credited to Pennsylvania being engaged on the Susquehanna River. The shore and boat fisheries greatly predominated, reporting over 70 per cent of the total persons employed.

As already indicated, fishing on the Great Lakes gave occupation to fewer people than fishing in any other of the main geographic divisions of the country. The distribution of the persons employed among the various lakes and rivers of the Great Lakes division is shown below:

LOCALITY.	Persons employed in Great Lakes division: 1908.
Total	8,533
Lake Superior	786
Lake Michigan	2,706
Lake Huron	1,382
Lake St. Clair and St. Clair and Detroit Rivers	221
Lake Erie	3,142
Lake Ontario, including Niagara and St. Lawrence Rivers	296

Proprietors and independent fishermen.—Slightly more than one-half of the persons engaged in the fisheries of the United States in 1908 were proprietors and independent fishermen. Nearly two-thirds of this class were reported from the Atlantic coast division, the Mississippi River division ranking second with a little more than one-eighth, followed by the Pacific coast, the Gulf of Mexico, and the Great Lakes, in the order named. The greatest percentage of proprietors and independent fishermen appears invariably in shore and boat fisheries. This is natural, as it was to be expected that independent fishermen would preponderate in the class of fisheries wherein the capital required and cost of operation are not great.

The largest proportion which the proprietors and independent fishermen formed of the total number of persons employed is shown for the Mississippi River division, where more than three-fourths were of this class. The number is smallest, relatively, in the Gulf of Mexico division, but even there it exceeds one-third.

The salaried employees are almost a negligible quantity, amounting to only two-tenths of 1 per cent for the United States as a whole.

Wage-earners and wages.—The number of wage-earners in this report is the total number employed at any time during the year. The wages returned on the schedules were not those of the average fisherman, nor for any uniform period throughout the country, nor were they such as might have been secured if employment had been continuous.

In many cases remuneration is not wholly in money wages, but consists either altogether or in part in a share of the catch, the share being given usually as 50 per cent of the catch after certain expenses are deducted.

It was impossible in most cases to obtain from the returns the net share of the catch going to the fisherman. This share had sometimes been calculated weekly by the employing fisherman from slips which had been at once destroyed. In many cases an estimate, made either by the employer or by the special agent upon information furnished, had to serve the purpose. These estimates, however, are believed to be substantially representative of the income received.

Some inland fishermen work for wages, with apparatus and board furnished; others are paid by the bushel or according to the weight of their catch. In some coast fisheries men were given $25 a month and board while employed, the value of the board being calculated at $10 a month. When board was furnished in addition to wages it is included in the earnings given here. The earnings were frequently pieced out in other industries or occupations, as, for instance, in hunting or trapping, or perhaps in farming; for in some sections there are farmers who, being located near rivers, set seines and trawls, employing for this purpose men who, when not thus occupied, do farm work.

The nationality of the fishermen may possibly have something to do with the variations in the earnings in the various sections of the country. On the Gulf of Mexico and Southern Atlantic coasts there has been little change in the nationality of the fishermen. Off the coast of Maine the fishermen are practically all natives. On some sections of the Massachusetts coast a great number of the deep-sea fishermen are Portuguese and natives of Nova Scotia. In other localities in this state the shore and boat fisheries are carried on largely by Italians. A considerable number of fishermen in Rhode Island are Greeks. From New Jersey there were reported a number of Swedes, Norwegians, and Finns engaged in the vessel fisheries. In addition to Americans—Finns, Norwegians, Swedes, Slavonians, Greeks, Italians, Chinese, and Japanese are engaged in the fishery industries of the Pacific coast.

Most of the vessels of the New England fisheries make a number of voyages to the fishing grounds in the course of a year. In some instances the crews were engaged all the year round in one kind of fisheries or another, whereas in others the catch was confined to one or two kinds of fish and the season was accordingly limited. For some of the Middle Atlantic states the coast fisherman's average season was given as six months. The oyster season lasts from September to May, when the crab season begins. The shad season starts in December in the South when the shad enters the rivers to spawn, and the season is successively later and later northward. Drift or rip fishing off the Massachusetts coast lasts from January 1 to October, and hand line-fishing from the side of the vessel extends to the end of the calendar year.

It will be noted that for the United States as a whole the earnings considered relatively to the number of wage-earners are greatest for the fishermen employed upon vessels. This is due to various causes, among them being a greater continuity of employment. In some instances vessels engaged in fishing during the fishing season were employed in freighting or excursion business for the rest of the year. Thus the crew was employed for the entire year and the wages reported represented the year's work, as it was impossible to obtain an estimate of the amount that should be charged to fishing. In the shore and boat fisheries, on the other hand, there are intervals of unemployment, and the earnings can be supplemented, if need be, by work in other occupations. Moreover, the number of fishermen employed on vessels is more readily ascertainable; if there are no records, then the estimates can be more closely based on fact. The records for the shore and boat fisheries are likely to be scattered; and as the statistics were taken some months after the close of the calendar year 1908, it is probable that the numbers reported were not always perfectly accurate.

The earnings of the men employed on transporting vessels ranked second. Their high relative earnings also may be explained by the more accurate methods of establishing the figures and the more nearly continuous employment observed in connection with vessel fisheries. The earnings of shoresmen ranked

third, while shore and boat fishermen earned, relatively to their numbers, less than those employed in any other branch of the industry.

It was, moreover, true of every main geographic division, shown in the table on page 14, that the gross wages paid in the shore and boat fisheries relatively to the numbers given employment at any time of the year, however short the term of employment, ranked lowest among the four classes of fisheries. In three of the five divisions—the Atlantic, Pacific, and Great Lakes—such relative earnings were greatest for wage-earners in vessel fisheries; and in two—the Gulf of Mexico and Mississippi River divisions—they were greatest for wage-earners on transporting vessels.

The earnings of wage-earners on the Atlantic coast were, relative to their numbers, less than those for any other main geographic division except the Mississippi River division. Notwithstanding this fact, such relative earnings in the New England states were larger than for any of the main geographic divisions. The reason for this is that in these states a large majority of the fishermen are employed upon vessels, while in the Middle Atlantic and South Atlantic states the majority are engaged in shore and boat fisheries.

Comparison with prior censuses.—Comparative statistics for the number of fishermen (not including shoresmen), as reported at the present census and at the censuses of 1890 and 1880, are given in the following table. It should be noted, however, that the figures for 1889, obtained in the census of 1890, do not include persons for whom fishing was a transient occupation, and that those for 1880 do not include the inland waters, excepting the Great Lakes. For these reasons any comparison of the different years is of doubtful value. Possibly fisheries of minor importance were carried on in Colorado, Idaho, Montana, Nevada, North Dakota, Utah, and Vermont in interior waters not directly tributary to any of the large divisions, and were not included in the canvass of 1908.

It would appear that at the census of 1890 a number of fishermen not now classed as commercial fishermen were included. In 1908 the Atlantic coast states, including Florida, reported 11,172 fewer fishermen than in 1889, but 15,647 more than in 1880; while the Pacific coast states in 1908 reported a total which is 3,169 more than in 1889 and 8,135 more than in 1880. The states bordering on the Gulf of Mexico, exclusive of Florida, but including the entire states of Louisiana and Mississippi, employed in 1908, 7,308 more than in 1889 and 7,766 more than in 1880.

STATE.	PERSONS EMPLOYED.[1]		
	1908	1889[2]	1880[3]
Total	141,031	134,923	95,684
Alabama	969	667	545
Arkansas	998	207	.....
California	4,100	4,697	2,089
Colorado	.....	27	.....
Connecticut	1,895	2,376	2,585
Delaware	1,744	1,656	1,662
District of Columbia	.....	102	.....
Florida	9,006	3,379	2,284
Georgia	2,215	212	809
Idaho	.....	115	.....
Illinois	4,359	799	265
Indiana	972	292	45
Iowa	786	348	.....
Kansas	97	175	.....
Kentucky	544	374	.....
Louisiana	5,492	742	1,300
Maine	6,857	10,944	8,110
Maryland	18,316	25,856	15,873
Massachusetts	11,535	15,693	17,165
Michigan	3,294	3,113	1,600
Minnesota	931	474	30
Mississippi	2,031	811	110
Missouri	906	504	.....
Montana	.....	43	.....
Nebraska	129	90	.....
Nevada	.....	211	.....
New Hampshire	79	314	376
New Jersey	7,145	9,963	5,659
New Mexico	.....	8	.....
New York	6,172	7,162	5,650
North Carolina	9,637	8,612	4,729
North Dakota	.....	9	.....
Ohio	2,018	1,832	925
Oklahoma	3	13	.....
Oregon	4,769	2,911	2,795
Pennsylvania	1,237	2,066	511
Rhode Island	1,404	1,745	1,602
South Carolina	2,530	1,740	964
South Dakota	33	62	.....
Tennessee	427	369	.....
Texas	1,720	684	491
Utah	.....	18	.....
Vermont	.....	117	.....
Virginia	19,905	18,892	16,061
Washington	4,879	2,971	729
West Virginia	8	45	.....
Wisconsin	1,889	1,456	730
Wyoming	.....	7	.....

[1] Not including shoresmen.
[2] Not including transient fishermen.
[3] Not including those employed on inland waters, excepting the Great Lakes.

CHAPTER IV.

CAPITAL AND EQUIPMENT.

Although it is impossible to collect satisfactory statistics in regard to capital invested in the fishing industry, it was considered necessary to include in the schedule an inquiry on this subject. The number and value of the different classes of vessels, boats, and apparatus of capture were reported separately. The value of land, buildings, machinery, tools, implements, and other fixed capital, as well as cash on hand, materials in stock, and the various other items of live capital, were returned as separate items of investment. The instructions for the inquiry given on the schedule were as follows:

> The answer must show the total amount of capital, both owned and borrowed. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented or vessels are chartered, that fact should be stated and the value given. The value of all items of live capital, bills receivable, unsettled ledger accounts, materials, products, and cash on hand, etc., should be given as of the beginning of the business year reported.

The total capital invested in the commercial fisheries of the United States, as compiled from the answers to this inquiry, amounted to $42,021,000, of which 57 per cent was invested in vessel fisheries and 43 per cent in shore and boat fisheries. The following tabular statement gives the leading items of capital:

CLASS OF INVESTMENT.	CAPITAL: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$42,021,000	$24,030,000	$17,991,000
Vessels and boats, including outfit	25,101,000	17,823,000	7,277,000
Apparatus of capture	8,999,000	2,203,000	6,796,000
Shore and accessory property	5,342,000	2,345,000	2,997,000
Cash	2,579,000	1,658,000	921,000

Shore and accessory property includes wharf property, fish depots, house boats, shelters built near or upon fishing grounds, and unused apparatus of capture; it does not include investments in preserving or canning establishments. Cash consists of the current funds employed in the business.

In the case of both classes of fisheries the craft used was the largest item of investment. The capital invested in the vessels, including outfits, of the vessel fisheries was nearly equal to the entire investment in shore and boat fisheries and more than twice the capital reported as invested in boats by the shore and boat fisheries. The apparatus of capture used by the shore and boat fisheries, however, had a value over three times as great as that used by the vessel fisheries. The investment in shore and accessory property was larger for the shore and boat fisheries, but a larger amount of cash was reported for the vessel fisheries. The amount represented by shore and accessory property and cash combined did not differ materially for the two classes of fisheries.

The capital invested in the Atlantic coast division exceeded that of all the other divisions combined, being 60 per cent of the total In the case of nearly every item more than one-half of the total for the United States was reported for this geographic division.

The Great Lakes division is the only one in which there was less capital invested in vessels and boats than in apparatus of capture. In this district the amount reported for shore and accessory property and cash was relatively high.

The capital invested is presented by main geographic divisions in Table 1 on page 22 and by states on page 13. Those states reporting an amount in excess of $2,000,000 are shown in the following tabular statement in the order of rank. The nine states given had invested a total capital of $27,227,000, or 65 per cent of the total investment in the industry.

STATE.	CAPITAL: 1908.	
	Amount.	Per cent distribution.
United States	$42,021,000	100
Massachusetts	5,750,000	14
New York	3,832,000	9
Washington	3,441,000	8
Virginia	2,984,000	7
Florida	2,416,000	6
Maine	2,411,000	6
Connecticut	2,281,000	5
Maryland	2,099,000	5
Michigan	2,013,000	5
All other states	14,794,000	35

Vessels and boats.—Table 3 on page 23 gives in detail the statistics of vessels and boats for the United States as a whole, and for the main geographic divisions. The value of vessels, outfits of vessels, and boats employed in the fisheries of the United States amounted to $25,101,000, or 60 per cent of the total capital.

The distinction between vessels and boats is one of tonnage. The term "vessel" is applied to all craft of 5 tons register or over, whether or not they are registered as required by the navigation laws of the

United States. All craft of less than 5 tons are classified as boats.

Outfit includes provisions for the crew, and salt, bait, ice, and other articles used in the taking and preserving of the product, but does not include boats carried by the vessels and such articles as repair tools, nautical instruments, hawsers, anchors, or charts. As these are considered a part of the vessel, their value is included in the value of the vessels.

The subclass bearing the designation "Other," which is shown in the tables under the heads of both vessels and boats, includes scows and barges and all unrigged or towed craft of 5 tons or more register in the class of vessels and of less than 5 tons in the class of boats. It does not include house boats, floating wharves, or any sort of moored craft used only as living quarters, as warehouses, or as docks. Such items are included under "Shore and accessory property."

The investment in vessels was $13,806,000, or 55 per cent of the total investment in craft, including outfits, and the investment in their outfits, $4,026,000, or 16 per cent, together making a total of $17,832,000 pertaining to vessel fisheries, or 71 per cent of the value of all floating equipment. The investment in boats, which was $7,269,000, or 29 per cent of the total, represents the share of the shore and boat fisheries in this kind of equipment. Boats carried on vessels must not be confused with boats used in the shore and boat fisheries. The value of the former is included in the value of the vessels.

Vessels are of two classes, those engaged in fishing and those engaged in transporting the product to port or to market. Fishing vessels had a value of $11,276,000, or 82 per cent of the total for vessels and 54 per cent of the total for all craft. The value of outfits was much larger for the fishing vessels, as transporting vessels carry no bait and remain away from port a shorter period. Including outfits, the fishing vessels had a total value of $14,849,000, of which the value of outfits constituted 24 per cent; and the transporting vessels a total value of $2,982,000, of which the value of outfits constituted 15 per cent. Fishing vessels and their outfits formed 59 per cent of the investment in vessels, outfits, and boats, and transporting vessels 12 per cent.

The classification of vessels and boats according to means of propulsion is of special interest as showing the extent to which power craft are used. The vessels reported under the head "Steam and motor" were mainly steam vessels, and the boats so reported principally gasoline and naphtha launches.

Of the $21,075,000 invested in vessels and boats, not including outfits, 55 per cent represents the value of craft propelled by engines, 39 per cent the value of sailing boats and vessels, 4 per cent the value of rowboats, and 2 per cent the value of other boats and vessels.

Vessels and boats, by divisions.—The Atlantic coast division is credited with 66 per cent of the total investment in vessels and boats. Of the $16,553,000 so invested there, 58 per cent was in vessels, 17 per cent in outfits, and 25 per cent in boats. The percentages for vessels and outfits are larger than in any other division, and that for boats is smaller.

The value of the steam and motor vessels in use in the Atlantic coast division was 50 per cent of the total for all vessels in the division, but their number and tonnage formed only 34 per cent and 29 per cent, respectively, of the corresponding totals. Although 69 per cent of the steam tonnage of all vessels in the United States fisheries was reported from the Atlantic coast division, the proportions of the total number, tonnage, and value were higher for sailing vessels, indicating a greater relative use of the latter in these waters. The value of steam vessels, not including outfits, exceeded that of sailing vessels among fishing vessels in this division, but not among transporting vessels.

Steam and motor boats of the Atlantic coast division, although forming only 16 per cent of all boats in number, contributed 60 per cent of the total value of boats for that division. Of the value of all craft in the Atlantic coast division, $7,324,000, or 53 per cent, represents the value of craft equipped with steam or other power; $5,833,000, or 42 per cent, that of sailing craft; $484,000, or 4 per cent, rowboats; and $90,000, or less than one-tenth of 1 per cent, scows or barges.

The Pacific coast division ranked next to the Atlantic coast division in the amount invested in vessels, outfits, and boats, although it reported only 14 per cent of the total for the United States. Steam vessels were in general use, forming 72 per cent of all vessels and contributing 83 per cent of the entire value.

In the Gulf of Mexico division the investment in vessels, outfits, and boats amounted to $2,805,000, which was 11 per cent of that for the United States. The proportion represented by transporting vessels was 16 per cent, which was greater than in the country as a whole.

The capital invested in vessels and boats in the Great Lakes division ($1,651,000, or 7 per cent of the total) was distributed as follows: vessels, 52 per cent; outfits, 11 per cent; and boats, 37 per cent. With one exception, all vessels were operated by steam or motor power. Of the value of boats on the Great Lakes, 81 per cent is credited to power craft, while steam or motor craft represents 92 per cent of the total investment in craft, not including outfit.

The investment of the fisheries of the Mississippi River and its tributaries in vessels and boats ($547,000, including outfits), was 2 per cent of the total so invested in the United States. This is the only division in which the value of the boats exceeded that of the vessels. Steam and motor craft contributed 61 per cent of the value of all boats and 65 per cent of the value of all craft of the Mississippi River division, which, exclusive of outfits, was $528,000.

The amount invested in vessels in the United States as a whole was divided between fishing vessels and transporting vessels in the proportion of 82 per cent and 18 per cent, respectively. In the Atlantic coast division the proportion of the total vessel investment represented by fishing vessels was 83 per cent; in the Gulf of Mexico, 78 per cent; in the Pacific coast, 73 per cent; in the Great Lakes, 91 per cent; and in the fisheries of the Mississippi River and its tributaries, 19 per cent.

The average tonnage of vessels was slightly over 18 tons, the average for steam vessels being 16 tons, and for sailing vessels 20 tons. The following tabular statement gives the average tonnage of the several classes of vessels for the United States and for the five geographic divisions:

CLASS OF VESSEL.	AVERAGE TONNAGE OF VESSEL.					
	United States.	Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Great Lakes division.	Mississippi River division.
Fishing vessels:						
Steam	17	16	9	43	14	7
Sail	20	20	14	125	.....	.....
Transporting vessels:						
Steam	12	11	15	13	14	12
Sail	21	17	11	667	.....	7

Apparatus of capture.—The total investment in apparatus of capture was $8,999,000. Detailed statistics for each class of fisheries are given in Table 2 on page 22.

In point of value, pound nets, trap nets, and weirs were the most important class of apparatus of capture, having a total value of $3,000,000, which is 33 per cent of the value of all apparatus of capture used. The value of the pound net varied greatly according to its size, ranging from less than $100 to over $2,000 for some in use in the Pacific coast division. They were most numerous in the Atlantic coast fisheries. Gill nets were in extensive and general use, ranking second in value among all apparatus of capture.

Next in importance to gill nets were seines, valued at $937,000, of which $286,000 represents the value of 466 purse seines and $652,000 that of 7,530 haul and other seines. By far the greater number of the seines used and all but 9 per cent of the purse seines were reported by the fisheries of the Atlantic coast.

Fyke and hoop nets ranked fourth in value. Although used in large numbers in every division, they were most prominent in the fisheries of the Mississippi River and its tributaries, which contributed 66 per cent of the number and 56 per cent of the value of all fyke and hoop nets used in this country.

The value of all classes of nets used in the fisheries of the United States amounted to $7,315,000, or 81 per cent of the value of all apparatus of capture.

Of apparatus other than nets, the most important as measured by value were hand, trawl, and set lines. The Atlantic coast division led in this kind of apparatus, reporting $367,000, or 77 per cent of the value of all lines used.

Pots and traps of various kinds, which had a total value of $457,000, were for the most part employed in the lobster and eel fisheries of the Atlantic coast. The few lobster pots and traps shown for the Pacific coast fisheries were used in the spring lobster catch. Practically all the eel pots and traps belonged to the Atlantic coast fisheries.

Dredges, tongs, rakes, etc., were used most extensively in the Atlantic coast and Gulf of Mexico fisheries. This class of apparatus was also used to a small extent in the mussel-shell industry of the Mississippi River division and in the molluscan fisheries of the Pacific coast.

Other apparatus of capture included the wheels and slides of the Pacific coast fisheries, the fishing machines of North Carolina, and the sponge apparatus of the Gulf of Mexico sponge fisheries.

The following tabular statement gives the amount invested in apparatus of capture, by states, arranged in the order of the value of apparatus reported:

STATE.	Value of apparatus of capture: 1908.
United States	$8,999,000
Washington	1,162,000
Michigan	821,000
Oregon	795,000
Massachusetts	775,000
Maine	576,000
California	562,000
Virginia	485,000
Ohio	423,000
Wisconsin	407,000
Maryland	369,000
North Carolina	367,000
New York	362,000
Florida	326,000
Illinois	272,000
Rhode Island	230,000
Pennsylvania	114,000
All other states	1,014,000

The table on page 22 gives statistics concerning the different kinds of apparatus of capture as reported for the vessel and for the shore and boat fisheries, respectively.

Shore and accessory property and cash.—The distribution of the capital invested in shore and accessory property and cash is shown by geographic divisions in the table following.

TABLE 1.—EQUIPMENT AND OTHER CAPITAL: 1908.

CLASS OF INVESTMENT.	UNITED STATES.		ATLANTIC COAST DIVISION.		GULF OF MEXICO DIVISION.		PACIFIC COAST DIVISION.		MISSISSIPPI RIVER DIVISION.		GREAT LAKES DIVISION.		PER CENT OF TOTAL.				
	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Mississippi River division.	Great Lakes division.
Total	$42,021,000	100	$25,398,000	100	$3,901,000	100	$6,468,000	100	$1,440,000	100	$4,814,000	100	60	9	15	3	11
Vessels, including outfit	17,831,000	42	12,449,000	49	1,964,000	50	2,307,000	36	77,000	5	1,034,000	21	70	11	13	(1)	6
Fishing	14,849,000	35	10,607,000	42	1,518,000	39	1,764,000	27	19,000	1	942,000	20	71	10	12	(1)	6
Transporting	2,982,000	7	1,842,000	7	447,000	11	543,000	8	58,000	4	92,000	2	62	15	18	2	3
Boats	7,269,000	17	4,104,000	16	841,000	22	1,227,000	19	470,000	33	617,000	13	56	12	17	6	8
Steam and motor	4,016,000	10	2,471,000	10	207,000	5	552,000	9	289,000	20	497,000	10	62	5	14	7	12
Sail	2,062,000	5	1,073,000	4	505,000	13	449,000	7	1,000	(1)	35,000	1	52	24	22	(1)	2
Row and other	1,190,000	3	560,000	2	129,000	3	226,000	4	180,000	12	85,000	2	47	11	20	15	7
Apparatus of capture	8,999,000	21	3,822,000	15	374,000	10	2,439,000	38	514,000	36	1,831,000	38	42	4	27	6	20
Shore and accessory property and cash	7,921,000	19	5,023,000	20	722,000	19	465,000	7	379,000	26	1,332,000	28	63	9	6	5	17

[1] Less than 1 per cent.

TABLE 2.—APPARATUS OF CAPTURE: 1908.

KIND.	TOTAL.		VESSEL FISHERIES.		SHORE AND BOAT FISHERIES.	
	Number.	Value.	Number.	Value.	Number.	Value.
Total		$8,999,000		$1,910,000		$7,089,000
Fyke and hoop nets	81,191	504,000	4,390	19,000	76,801	485,000
Gill nets	233,256	2,709,000	111,093	779,000	122,163	1,930,000
Pound nets, trap nets, and weirs	16,194	3,000,000	352	165,000	15,752	2,835,000
Seines	7,996	937,000	1,111	342,000	6,885	595,000
Purse	466	286,000	466	286,000		
Haul, and other	7,530	652,000	645	56,000	6,885	595,000
Trammel nets	4,760	121,000	83	4,200	4,677	117,000
Other nets	13,027	44,000	24	7,200	13,003	37,000
Bag	176	5,500	3	100	173	5,400
Bow	723	2,300			723	2,300
Cast	1,853	9,200			1,853	9,200
Cunner nets, cunner traps, and trap nets	191	400			191	400
Dip	5,796	10,000	2	(1)	5,794	10,000
Paranella	20	7,200	19	7,100	1	100
Shrimp	4,243	8,800			4,243	8,800
Stop	25	400			25	400
Beam trawls	169	4,900	106	3,500	63	1,500
Harpoons, spears, etc		16,000		11,000		4,000
Lines—hand, trawl, and set		476,000		353,000		122,000
Pots and traps	464,002	457,000	28,568	40,000	435,434	417,000
Eel pots and traps	32,172	25,000	3,769	4,200	28,403	20,000
Lobster pots and traps	270,251	376,000	22,787	35,000	247,464	341,000
Otter, mink, and muskrat traps	133,185	28,000	12	(1)	133,173	28,000
Other pots and traps	28,394	29,000	2,000	1,200	26,394	28,000
Sponge apparatus		76,000		55,000		22,000
Wheels and slides	69	237,000			69	237,000
Dredges, tongs, rakes, etc		375,000		118,000		257,000
All other		41,000		12,000		29,000

[1] Less than $100.

TABLE 3.—NUMBER, TONNAGE, AND VALUE OF VESSELS AND BOATS: 1908.

CLASS.	United States.	Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Great Lakes division.	Mississippi River division.
Total value	$25,101,000	$16,553,000	$2,805,000	$3,545,000	$1,651,000	$547,000
Vessels:						
Number	6,933	5,370	915	294	319	35
Tonnage	126,453	95,502	11,665	14,503	4,499	264
Value of vessels	$13,306,000	$9,628,000	$1,521,000	$1,740,000	$659,000	$58,000
Value of outfit	$4,026,000	$2,821,000	$443,000	$568,000	$175,000	$19,000
Boats carried, number	11,805	9,671	1,300	640	166	28
Steam and motor—						
Number	2,561	1,844	162	211	318	26
Tonnage	40,723	28,037	1,973	5,944	4,499	270
Value of vessels	$7,540,000	$4,853,000	$334,000	$1,439,000	$659,000	$56,000
Value of outfit	$1,702,000	$1,003,000	$88,000	$476,000	$175,000	$19,000
Boats carried, number	3,629	2,900	177	358	166	28
Sail—						
Number	4,182	3,447	695	38		2
Tonnage	85,730	67,465	9,692	8,559		14
Value of vessels	$5,196,000	$4,761,000	$1,145,000	$290,000		$400
Value of outfit	$2,264,000	$1,818,000	$354,000	$91,000		
Boats carried, number	8,176	6,771	1,123	282		
Other—						
Number	190	79	58	45	1	7
Value of vessels	$70,000	$14,000	$43,000	$10,000	$100	$2,300
Fishing vessels—						
Number	5,148	3,959	746	149	287	7
Tonnage	96,009	73,749	9,702	8,471	4,047	40
Value of vessels	$11,276,000	$8,035,000	$1,181,000	$1,299,000	$780,000	$11,000
Value of outfit	$3,574,000	$2,572,000	$337,000	$496,000	$162,000	$7,500
Boats carried, number	10,340	8,419	1,164	595	153	9
Steam and motor—						
Number	1,888	1,416	73	107	286	6
Tonnage	32,609	23,205	645	4,562	4,047	40
Value of vessels	$6,012,000	$4,067,000	$96,000	$1,057,000	$780,000	$11,000
Value of outfit	$1,482,000	$866,000	$27,000	$420,000	$162,000	$7,500
Boats carried, number	3,056	2,490	85	319	153	9
Sail—						
Number	3,135	2,467	637	31		
Tonnage	63,400	50,454	9,057	3,889		
Value of vessels	$5,249,000	$3,955,000	$1,084,000	$210,000		
Value of outfit	$2,091,000	$1,706,000	$310,000	$75,000		
Boats carried, number	7,284	5,929	1,079	276		
Other—						
Number	125	76	36	11	1	1
Value of vessels	$15,000	$12,000	$900	$1,100	$100	$200
Transporting vessels—						
Number	1,785	1,411	109	145	32	28
Tonnage	30,444	21,753	1,963	6,032	452	244
Value of vessels	$2,530,000	$1,593,000	$341,000	$471,000	$79,000	$47,000
Value of outfit	$452,000	$249,000	$106,000	$72,000	$14,000	$11,000
Boats carried, number	1,465	1,252	136	45	13	19
Steam and motor—						
Number	673	428	89	104	32	20
Tonnage	8,114	4,742	1,328	1,362	452	230
Value of vessels	$1,529,000	$786,000	$238,000	$382,000	$79,000	$45,000
Value of outfit	$280,000	$138,000	$61,000	$56,000	$14,000	$11,000
Boats carried, number	573	410	92	39	13	19
Sail—						
Number	1,047	980	58	7		2
Tonnage	22,330	17,011	635	4,670		14
Value of vessels	$947,000	$906,000	$61,000	$80,000		$400
Value of outfit	$172,000	$112,000	$45,000	$16,000		
Boats carried, number	892	842	44	6		
Other—						
Number	65	3	22	34		6
Value of vessels	$55,000	$1,800	$42,000	$9,100		$2,100
Boats:						
Number	83,549	52,114	8,971	7,231	3,956	11,277
Value	$7,269,000	$4,104,000	$841,000	$1,237,000	$617,000	$470,000
Steam and motor—						
Number	12,251	8,472	518	868	1,086	1,307
Value	$4,016,000	$2,471,000	$207,000	$552,000	$497,000	$289,000
Sail—						
Number	20,144	14,410	2,443	2,903	378	10
Value	$2,062,000	$1,073,000	$505,000	$449,000	$35,000	$1,000
Row—						
Number	47,785	27,096	5,830	2,857	2,290	9,712
Value	$904,000	$484,000	$105,000	$85,000	$51,000	$169,000
Other—						
Number	3,369	2,136	180	603	202	248
Value	$286,000	$76,000	$24,000	$142,000	$34,000	$11,000

CHAPTER V.

PRODUCTS.

The value of the fishery products in 1908 is the largest yet recorded, and is in harmony with the slow but steady growth revealed by previous canvasses made under the direction of the Bureau of Fisheries or by the Bureau of the Census. Comparative figures as to the total value of products for 1908 and prior years have been given in Chapter I of this report. Table 1, on page 26, is a comparative summary of the quantity and value of the products at the present census and as reported by the Bureau of Fisheries for the period 1900–1904, grouped according to general classes.

The increase has been more or less general for those items which are shown separately for both periods. There were decreases both in quantity and value for menhaden and whale products and a decrease in value for oysters, although the quantity of this product shows an increase. Under the head "All other products" for the period 1900–1904 are included products which were reported separately in 1908. The total products show an increase in value over those for the earlier years of 9 per cent, the value of the fish products reported increasing 17 per cent and that of crustaceans 25 per cent. Mollusks show a slight decrease in value, amounting to 3 per cent, and the whale products a large decrease, amounting to 39 per cent.

The following statement shows the distribution of the chief products of the fisheries as reported in 1908:

CLASS.	FISHERY PRODUCTS: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	1,893,454,000	100	$54,031,000	100
Fish	1,441,317,000	76	30,247,000	56
Food fish	1,046,541,000	55	29,354,000	54
Menhaden	394,776,000	21	893,000	2
Crustaceans	96,225,000	5	3,466,000	6
Mollusks	347,799,000	18	18,732,000	35
Sponges	622,000	(1)	545,000	1
Whale products	4,028,000	(1)	497,000	1
All other	3,462,000	(1)	523,000	1

[1] Less than 1 per cent.

Fish proper formed more than three-fourths of the quantity (76 per cent) and more than half the value (56 per cent) of the entire product. Menhaden alone contributed more than one-fourth of the total quantity but less than one-thirtieth of the total value of fish. On account of the great importance of the oyster fisheries mollusks were the most important product outside of fish proper, both in quantity and in value, forming 18 per cent of the total quantity and 35 per cent of the total value of the fishery products.

Table 2, on page 26, gives statistics showing the products by species for the United States and for the several geographic divisions. The value of the product taken by the fisheries of the Atlantic coast division is nearly double that of all the rest of the country combined, being 66 per cent of the total for the United States. The Pacific coast division ranked next in the value of its catch, with 13 per cent of the total. The Gulf of Mexico, the Great Lakes, and the Mississippi River divisions contributed, respectively, 9 per cent, 7 per cent, and 6 per cent of the total value. The oyster product leads all other species in value, contributing 29 per cent of the total value of products. Salmon ranked next to oysters in the value of the catch, being the leading species of fish in this respect. A catch valued at $2,000,000 or over is also reported for cod and shad, while lobsters, clams, squeteague, halibut, haddock, and carp each show a product in excess of $1,000,000 in value. In the first of the following tables the 30 leading species, including all for which the reported product had a value in excess of $400,000, are ranked according to the value of the catch, and in the second the quantity and value of products are shown by states ranked according to value of product:

Rank.	SPECIES.	FISHERY PRODUCTS: 1908.			
		Quantity.		Value.	
		Pounds.	Per cent distribution.	Amount.	Per cent distribution.
	Total	1,893,454,000	100	$54,031,000	100
1	Oysters	233,309,000	12	15,713,000	29
2	Salmon	90,417,000	5	3,347,000	6
3	Cod	110,654,000	6	2,914,000	5
4	Shad	27,641,000	1	2,113,000	4
5	Lobster	15,279,000	1	1,931,000	4
6	Clams [1]	16,717,000	1	1,896,000	4
7	Squeteague	49,869,000	3	1,776,000	3
8	Halibut	34,441,000	2	1,572,000	3
9	Haddock	59,987,000	3	1,308,000	2
10	Carp, German	42,763,000	2	1,135,000	2
11	Lake herring	41,118,000	2	989,000	2
12	Crabs [2]	32,913,000	2	912,000	2
13	Mullet	33,703,000	2	908,000	2
14	Menhaden	394,776,000	21	893,000	2
15	Mackerel	12,103,000	1	848,000	2
16	Lake trout	12,024,000	1	800,000	1
17	Herring, salt-water	125,050,000	7	796,000	1
18	Catfish	17,817,000	1	785,000	1
19	Mussel shells, pearls, and slugs	81,869,000	4	692,000	1
20	Snapper	13,854,000	1	651,000	1
21	Alewives	89,978,000	5	589,000	1
22	Flounders	23,346,000	1	588,000	1
23	Pike perch	15,247,000	1	580,000	1
24	Sponges	622,000	(3)	545,000	1
25	Whitefish	7,722,000	(3)	524,000	1
26	Bluefish	7,647,000	(3)	506,000	1
27	Buffalo fish	16,729,000	1	498,000	1
28	Shrimp and prawn	19,080,000	1	494,000	1
29	Hake	34,340,000	2	464,000	1
30	Pollack	29,462,000	2	402,000	1
	All other	183,574,000	10	6,572,000	13

[1] Not including surf clams.
[2] Not including king, spider, and stone crabs.
[3] Less than 1 per cent.

STATE.	FISHERY PRODUCTS: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	1,893,454,000	100	$54,031,000	100
Massachusetts	244,313,000	13	7,095,000	13
Virginia	312,515,000	17	4,716,000	9
New York	76,485,000	4	4,594,000	9
Washington	100,456,000	5	3,513,000	7
Florida	74,087,000	4	3,389,000	6
Maryland	113,796,000	6	3,306,000	6
Maine	173,843,000	9	3,257,000	6
New Jersey	71,827,000	4	3,069,000	6
Connecticut	66,942,000	4	2,982,000	6
California	47,477,000	3	1,970,000	4
North Carolina	101,422,000	5	1,776,000	3
Rhode Island	44,254,000	2	1,752,000	3
Louisiana	46,106,000	2	1,560,000	3
Michigan	38,302,000	2	1,473,000	3
Illinois	74,620,000	4	1,436,000	3
Oregon	28,217,000	1	1,356,000	3
Wisconsin	30,953,000	2	1,067,000	2
Ohio	28,917,000	2	840,000	2
Georgia	14,828,000	1	701,000	1
Mississippi	20,547,000	1	556,000	1
Delaware	70,769,000	4	541,000	1
Pennsylvania	11,888,000	1	513,000	1
Texas	10,439,000	1	446,000	1
Alabama	10,665,000	1	387,000	1
Missouri	6,751,000	(1)	271,000	1
South Carolina	14,104,000	1	288,000	1
Indiana	15,507,000	1	223,000	(1)
Iowa	8,867,000	(1)	215,000	(1)
Arkansas	12,567,000	1	207,000	(1)
Minnesota	7,475,000	(1)	192,000	(1)
Tennessee	4,509,000	(1)	112,000	(1)
Kentucky	5,390,000	(1)	110,000	(1)
New Hampshire	677,000	(1)	53,000	(1)
Kansas	432,000	(1)	28,000	(1)
Nebraska	399,000	(1)	22,000	(1)
South Dakota	70,000	(1)	4,200	(1)
West Virginia	35,000	(1)	2,000	(1)
Oklahoma	6,700	(1)	300	(1)

[1] Less than 1 per cent.

Statistics are shown separately for over a hundred species of fish proper, and in addition for about 50 species of crustaceans, mollusks, aquatic mammals, and other products. Many of the products are brought in from the fishing grounds in a salted condition or are smoked by the fishermen and are so reported.

The quantity and value of the catch taken by each class of apparatus of capture is shown in Table 3, on page 29, for the United States and for each of the main geographic divisions into which it is divided. The table also shows the catch taken by each class of apparatus in the vessel fisheries and in the shore and boat fisheries.

Table 4, on page 30, shows the products by species and by apparatus of capture.

Ranked in order of value, the catch with dredges, tongs, rakes, etc., is first in importance, representing 35 per cent of the total value of products. Lines ranked next, 17 per cent of the total value of products being taken by this form of apparatus, followed by gill nets with 14 per cent, seines with 11 per cent, and pound and trap nets and weirs with 10 per cent of the total. Wheels and slides are of course used only in the shore and boat fisheries and whaling apparatus only in the vessel fisheries. With these exceptions all classes of apparatus were employed in both classes of fisheries, although fyke and hoop nets, pound and trap nets, pots and traps, and gill nets pertain more particularly to the shore and boat fisheries. On the other hand, the catch by lines in vessel fisheries was nearly three times in value that of the shore and boat fisheries.

Since the bulk of the oyster product comes from the Atlantic coast, a greater proportion of the total product, 45 per cent, was taken by dredges, tongs, etc., in that division than in any other. The line catch represents 18 per cent of the total value of products for the Atlantic coast fisheries. For both these classes of apparatus the catch of the vessel fisheries exceeded that of the shore and boat fisheries, although the total value of products was larger for the latter class of fisheries.

In the Gulf of Mexico division dredges and tongs, lines, seines, gill nets, and sponge apparatus were the leading forms of apparatus of capture. In the Pacific coast fisheries gill nets were the most important, contributing 34 per cent of the total value of products. Nearly all the catch with this apparatus was reported for the shore and boat fisheries.

In the Great Lakes division 54 per cent of the total value of products was taken with gill nets and 29 per cent with pound and trap nets. Nearly three-fourths of the gill-net catch was taken in the vessel fisheries, while the pound and trap net catch was taken mainly in the shore and boat fisheries.

For the fisheries of the Mississippi River and its tributaries, the catch with seines represented 29 per cent of the value of all products, that with fyke and hoop nets 23 per cent, and that with dredges, tongs, etc., comprising chiefly crowfoot dredges employed in mussel fisheries, 22 per cent.

Table 5, on page 34, is a detailed presentation of the products by states and by species. The quantity of each species marketed by the fishermen in a salted or smoked condition is shown with the understanding that, except when otherwise stated, the product is fresh. Table 6, on page 44, gives the quantity and value of the catch, by apparatus of capture and by states.

TABLE 1.—PRODUCTS, BY GENERAL CLASSES: 1908 AND 1900 TO 1904.

CLASS AND SPECIES.	FISHERY PRODUCTS.			
	1908		1900–1904 [1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,803,454,000	$54,031,000	1,919,862,000	$49,398,000
Fish	1,441,317,000	30,247,000	1,538,396,000	25,758,000
Food fish	1,046,541,000	29,354,000	989,275,000	24,332,000
Menhaden	394,776,000	893,000	549,121,000	1,426,000
Crustaceans	96,225,000	3,466,000	77,813,000	2,764,000
Crabs	52,913,000	912,000	40,154,000	906,000
Crawfish	666,000	34,000	503,000	24,000
Lobster	15,279,000	1,931,000	15,130,000	1,382,000
Spiny lobster	573,000	69,000	1,078,000	43,000
Shrimp and prawn	19,080,000	494,000	17,695,000	395,000
All other	7,713,000	[2] 26,000	[3] 3,253,000	[3] 13,000
Mollusks	347,799,000	18,752,000	290,891,000	19,385,000
Abalone	1,005,000	16,000	825,000	9,200
Clams	16,717,000	1,896,000	19,083,000	1,820,000
Mussel shells, pearls and slugs	81,869,000	692,000	51,856,000	530,000
Oysters	233,309,000	15,713,000	204,118,000	16,681,000
Scallops and scallop rims	2,432,000	317,000	1,551,000	279,000
Squid	2,562,000	43,000	5,922,000	43,000
All other	9,905,000	[4] 75,000	7,535,000	[5] 23,000
Sponges	622,000	545,000	347,000	364,000
Whale products	4,028,000	497,000	5,576,000	816,000
Oil	3,964,000	282,000	5,462,000	311,000
Whalebone	63,000	215,000	114,000	505,000
Hides, pelts, and skins	602,000	325,000	353,000	59,000
Alligator hides	372,000	61,000	350,000	41,000
Porpoise hides	48,000	1,000		[6]
Mink skins	22,000	89,000		[6]
Muskrat skins	149,000	136,000		[6]
Otter skins	7,600	30,000	3,300	18,000
Seal skins	3,100	8,200		[6]
Frogs	259,000	42,000		[6]
Terrapin and turtles	1,457,000	122,000	1,409,000	114,000
All other products	1,145,000	35,000	5,078,000	136,000

[1] Combined statistics for the New England, South Atlantic, and Gulf states for 1902; Pacific coaststates for 1904; Mississippi River and its tributaries, Middle Atlantic states, and the Great Lakes for 1903; and minor interior waters for 1900–1903.
[2] Includes king crabs, valued at $23,000; and spider and stone crabs, valued at $3,700.
[3] Includes king crabs, valued at $8,900; and shrimp shells, valued at $4,400.
[4] Includes surf clams, valued at $21,000; cockles, winkles, and conchs, valued at $35,000; mussels, valued at $12,000; and other shells, valued at $7,100.
[5] Includes mussels, valued at $8,500; oyster and other shells, valued at $6,500; and cockles, winkles, conchs, etc., valued at $7,600.
[6] Not reported separately.

TABLE 2.—PRODUCTS, BY SPECIES AND BY GEOGRAPHIC DIVISIONS: 1908.

SPECIES.	UNITED STATES.		ATLANTIC COAST DIVISION.		GULF OF MEXICO DIVISION.		PACIFIC COAST DIVISION.		MISSISSIPPI RIVER DIVISION.		GREAT LAKES DIVISION.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,893,454,000	$54,031,000	1,344,665,000	$35,474,000	117,723,000	$4,825,000	176,150,000	$6,839,000	148,284,000	$3,125,000	106,632,000	$3,767,000
Fish:												
Albacore, or horse mackerel	359,000	12,000	309,000	11,000			50,000	800				
Alewives, fresh	80,945,000	455,000	80,941,000	455,000	4,500	100						
Alewives, salted	8,840,000	130,000	8,840,000	130,000								
Alewives, smoked	193,000	3,500	193,000	3,500								
Amber-fish, or jack-fish	38,000	1,600	600	[1]	38,000	1,600						
Anchovies	220,000	1,600					220,000	1,600				
Barracuda, fresh	3,138,000	87,000	1,300	[1]	44,000	3,100	3,093,000	84,000				
Barracuda, salted	112,000	3,500					112,000	3,500				
Black bass	3,313,000	255,000	1,641,000	105,000	86,000	7,200	82,000	8,200	1,459,000	128,000	45,000	6,100
Black cod	209,000	5,500					209,000	5,500				
Bluefish, fresh	7,594,000	504,000	7,029,000	476,000	565,000	28,000						
Bluefish, salted	52,000	1,900	1,400	100	51,000	1,900						
Bonito	1,096,000	39,000	755,000	32,000	11,000	900	329,000	6,100				
Bream and sunfish	4,738,000	120,000	1,656,000	52,000	185,000	8,300			2,821,000	58,000	76,000	1,900
Buffalo fish	16,729,000	498,000			1,683,000	43,000			15,046,000	455,000	6,200	200
Butterfish	6,855,000	237,000	6,749,000	223,000	16,000	400	89,000	13,000				
Carp, German, fresh	42,759,000	1,135,000	1,482,000	79,000	2,400	100	457,000	4,600	30,670,000	858,000	10,148,000	194,000
Carp, German, smoked	4,500	700									4,500	700
Catfish	17,817,000	785,000	3,528,000	132,000	3,984,000	143,000	1,270,000	65,000	8,073,000	395,000	963,000	50,000
Cobia	123,000	2,800	82,000	1,300	41,000	1,500						

[1] Less than $100.

TABLE 2.—PRODUCTS, BY SPECIES AND BY GEOGRAPHIC DIVISIONS: 1908—Continued.

SPECIES.	UNITED STATES.		ATLANTIC COAST DIVISION.		GULF OF MEXICO DIVISION.		PACIFIC COAST DIVISION.		MISSISSIPPI RIVER DIVISION.		GREAT LAKES DIVISION.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Fish—Continued.												
Cod, fresh	79,806,000	$1,964,000	79,806,000	$1,964,000								
Cod, salted	30,245,000	950,000	22,299,000	732,000			7,946,000	$218,000				
Crappie and strawberry bass	2,794,000	108,000	204,000	8,500	27,000	$1,400			2,563,000	$98,000	[1]	[2]
Crevalle	1,564,000	28,000	1,340,000	21,000	224,000	7,700						
Croaker	8,143,000	226,000	7,307,000	185,000	778,000	40,000	58,000	1,800				
Cultus cod	250,000	7,000					250,000	7,000				
Cunner	199,000	7,500	199,000	7,500								
Cusk, fresh	6,242,000	103,000	6,242,000	103,000								
Cusk, salted	103,000	2,200	103,000	2,200								
Dogfish, or bowfins	1,701,000	22,000	152,000	2,000					1,449,000	19,000	100,000	$1,400
Drum, fresh-water	6,532,000	154,000	4,100	100	301,000	9,100			4,737,000	129,000	1,490,000	16,000
Drum, salt-water	4,576,000	164,000	1,548,000	33,000	3,028,000	131,000						
Eels	3,358,000	203,000	3,251,000	197,000					61,000	3,900	46,000	2,700
Flounders	23,346,000	588,000	15,803,000	416,000	366,000	20,000	7,178,000	152,000				
Grouper, fresh	1,864,000	42,000	245,000	5,200	1,619,000	37,000						
Grouper, salted	6,000	300			6,000	300						
Grunts	389,000	19,000	5,200	100	384,000	19,000						
Haddock, fresh	58,946,000	1,286,000	58,946,000	1,286,000								
Haddock, salted	1,042,000	22,000	1,042,000	22,000								
Hake, fresh	33,815,000	455,000	33,815,000	455,000								
Hake, salted	525,000	8,900	525,000	8,900								
Halibut, fresh	33,785,000	1,509,000	3,698,000	272,000			30,088,000	1,236,000				
Halibut, salted	53,000	656,000	53,000	656,000								
Herring, fresh	115,563,000	658,000	112,216,000	625,000			3,347,000	32,000				
Herring, salted	9,253,000	135,000	9,253,000	135,000								
Herring, smoked	234,000	2,900	234,000	2,900								
Herring (lake), fresh	25,242,000	730,000									25,242,000	730,000
Herring (lake), salted	11,951,000	191,000									11,951,000	191,000
Herring (lake), smoked	3,925,000	67,000									3,925,000	67,000
Hickory shad, fresh	859,000	37,000	798,000	34,000					61,000	2,900		
Hickory shad, salted	17,000	1,000	17,000	1,000								
Jewfish, fresh	202,000	4,300	1,900	100	60,000	2,400	140,000	1,800				
Jewfish, salted	22,000	800					22,000	800				
Jurel	52,000	900			52,000	900						
Ladyfish, fresh	229,000	5,000			229,000	5,000						
Ladyfish, salted	117,000	4,000			117,000	4,000						
Ling, or eelpout	326,000	4,500	97,000	1,700					300	[2]	228,000	2,800
Mackerel, chub	639,000	16,000	437,000	13,000	4,500	100	197,000	3,300				
Mackerel, fresh	9,870,000	686,000	9,870,000	686,000								
Mackerel, salted	2,233,000	162,000	2,233,000	162,000								
Menhaden, fresh	394,771,000	893,000	391,619,000	889,000	3,153,000	4,000						
Menhaden, salted	5,000	200	5,000	200								
Minnows	2,200	900	2,200	900								
Moonfish, angelfish, orspadefish	161,000	6,000	65,000	1,700	95,000	4,200						
Mullet, fresh	30,682,000	786,000	12,872,000	306,000	17,807,000	480,000	3,600	300				
Mullet, salted	3,020,000	122,000	1,974,000	83,000	1,046,000	39,000						
Muskallunge	25,000	1,700									25,000	1,700
Mutton-fish	417,000	9,600	376,000	6,500	41,000	3,100						
Paddlefish	1,518,000	49,000			80,000	2,200			1,439,000	47,000		
Perch, white	2,412,000	137,000	2,412,000	137,000								
Perch, yellow	7,898,000	258,000	930,000	48,000	1,800	100			36,000	1,100	6,930,000	208,000
Permit	24,000	1,000	200	[1]	24,000	1,000						
Pigfish, or hogfish	777,000	32,000	690,000	27,000	87,000	4,900						
Pike and pickerel	2,959,000	174,000	145,000	11,000	305,000	11,000			367,000	16,000	2,142,000	136,000
Pike perch	15,247,000	580,000							133,000	11,000	15,115,000	569,000
Pollack, fresh	28,078,000	375,000	28,078,000	375,000								
Pollack, salted	1,384,000	27,000	1,384,000	27,000								
Pompano	570,000	71,000	311,000	39,000	259,000	32,000						
Porgy, fresh	128,000	6,600			128,000	6,600						
Porgy, salted	5,000	200			5,000	200						
Porkfish	35,000	2,800			35,000	2,800						
Redfish, or rosefish	305,000	2,800	305,000	2,800								
Rock bass	107,000	5,100							42,000	2,800	65,000	2,300
Rockfish, fresh	2,445,000	65,000					2,445,000	65,000				
Rockfish, salted	8,800	300					8,800	300				
Round robin	26,000	500			26,000	500						
Sacramento pike	20,000	500					20,000	500				
Sailor's choice, or pinfish	1,720,000	39,000	1,579,000	31,000	141,000	8,300						
Salmon, fresh	90,379,000	3,345,000	19,000	3,700			90,360,000	3,341,000				
Salmon, salted	39,000	1,700					39,000	1,700				
Sardines	4,638,000	30,000					4,638,000	30,000				
Scup	8,414,000	290,000	8,414,000	290,000								
Sea bass	6,352,000	284,000	6,309,000	282,000	43,000	1,500						
Sea robin	115,000	700	115,000	700								
Shad, fresh	27,383,000	2,107,000	25,679,000	2,085,000	3,000	200	1,700,000	22,000				
Shad, salted	258,000	6,500	258,000	6,500								
Shark	75,000	1,500	75,000	1,500								
Sheepshead	2,637,000	97,000	1,513,000	42,000	1,124,000	55,000					100	[2]
Silver hake	16,336,000	93,000	16,304,000	93,000								
Skates	402,000	4,200	278,000	3,200			124,000	1,000				

[1] Less than 100 pounds.
[2] Less than $100.

TABLE 2.—PRODUCTS, BY SPECIES AND BY GEOGRAPHIC DIVISIONS: 1908—Continued.

SPECIES.	UNITED STATES.		ATLANTIC COAST DIVISION.		GULF OF MEXICO DIVISION.		PACIFIC COAST DIVISION.		MISSISSIPPI RIVER DIVISION.		GREAT LAKES DIVISION.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Fish—Continued.												
Smelt	4,340,000	$174,000	695,000	$72,000			3,645,000	$103,000				
Snapper, red	13,498,000	636,000	952,000	33,000	12,546,000	$603,000						
Snapper, other	356,000	15,000	124,000	2,500	232,000	13,000						
Spanish mackerel, fresh	3,705,000	190,000	1,970,000	112,000	1,408,000	73,000	327,000	4,600				
Spanish mackerel, salted	101,000	3,500			78,000	2,800	23,000	700				
Spot	1,324,000	46,000	1,622,000	42,000	203,000	4,500						
Squeteague, fresh	49,800,000	1,774,000	44,427,000	1,504,000	4,036,000	228,000	1,337,000	42,000				
Squeteague, salted	68,000	2,900	14,000	600	54,000	2,200						
Striped bass	3,657,000	314,000	1,881,000	180,000			1,776,000	135,000				
Sturgeon, fresh	2,070,000	157,000	649,000	69,000	7,200	700	309,000	13,000	845,000	$39,000	259,000	$35,000
Sturgeon, smoked	2,500	500									2,500	500
Suckers, fresh	8,199,000	208,000	405,000	20,000					892,000	28,000	6,902,000	160,000
Suckers, salted	356,000	6,700									356,000	6,700
Surf-fish, or rivipparous perch	885,000	21,000					885,000	21,000				
Swordfish	2,714,000	198,000	2,706,000	198,000			7,800	200				
Tautog	995,000	37,000	995,000	37,000								
Tomcod	269,000	9,100	239,000	7,500			50,000	1,600				
Trout, brook	18,000	6,300									18,000	6,300
Trout (lake), fresh	11,671,000	781,000									11,671,000	781,000
Trout (lake), salted	353,000	19,000									353,000	19,000
White bass	265,000	13,000							41,000	1,800	224,000	11,000
Whitefish, fresh	7,366,000	507,000									7,366,000	507,000
Whitefish, salted	342,000	17,000									342,000	17,000
Whitefish, smoked	15,000	1,300									15,000	1,300
Whiting and kingfish	1,614,000	78,000	1,553,000	76,000	61,000	2,400						
Yellowtail	253,000	18,000	18,000	600	235,000	18,000						
All other	4,523,000	86,000	987,000	20,000	443,000	20,000	2,382,000	45,000	9,600	800	14,000	500
Caviar	217,000	95,000	44,000	53,000	135,000	16,000			25,000	17,000	12,000	8,600
Frogs	259,000	42,000	11,000	2,800	38,000	4,500			193,000	31,000	17,000	3,100
Crabs, hard	42,612,000	553,000	37,460,000	398,000	1,071,000	29,000	4,081,000	127,000				
Crabs, soft	10,301,000	339,000	10,176,000	332,000	126,000	27,000						
Crabs, king	7,643,000	23,000	7,643,000	23,000								
Crabs, spider	7,200	(1)	7,200	(1)								
Crabs, stone	62,000	3,700			62,000	3,700						
Crawfish	614,000	32,000			79,000	2,000	178,000	14,000	9,400	1,600	348,000	14,000
Lobster	15,279,000	1,931,000	15,279,000	1,931,000								
Spiny lobster	626,000	71,000			53,000	2,600	573,000	69,000				
Shrimp and prawn	19,080,000	494,000	5,708,000	142,000	12,561,000	271,000	504,000	53,000	306,000	28,000		
Abalone	1,005,000	16,000					1,005,000	16,000				
Clams, hard	7,805,000	1,317,000	7,336,000	1,294,000	182,000	5,800	287,000	17,000				
Clams, soft	8,654,000	553,000	8,136,000	546,000			497,000	7,300				
Clams, razor	259,000	25,000	24,000	3,600			234,000	22,000				
Clams, surf	265,000	21,000	265,000	21,000								
Oysters, market, from public areas	103,641,000	4,416,000	72,413,000	3,303,000	31,225,000	1,112,000	2,300	800				
Oysters, market, from private areas	74,652,000	8,305,000	64,642,000	7,239,000	7,956,000	381,000	2,055,000	686,000				
Oysters, seed, from public areas	26,960,000	1,035,000	22,436,000	948,000	4,522,000	87,000	1,800	200				
Oysters, seed, from private areas	28,056,000	1,957,000	27,252,000	1,944,000	700,000	6,200	104,000	6,500				
Scallops and scallop runs	2,432,000	317,000	2,432,000	317,000	400	100						
Cockles, winkles, and conchs	146,000	35,000	131,000	34,000	15,000	1,100						
Mussels	8,542,000	12,000	8,474,000	10,000			68,000	1,600				
Mussel shells	81,869,000	392,000	5,403,000	5,400					76,266,000	386,000	200,000	800
Other shells	952,000	8,400			300	1,300	951,000	7,100				
Pearls and slugs		300,000								300,000		
Squid	2,562,000	43,000	2,452,000	38,000			110,000	4,400				
Terrapin	368,000	80,000	92,000	42,000	68,000	25,000			207,000	13,000		
Turtles	1,088,000	40,000	148,000	5,800	378,000	20,000	38,000	1,300	506,000	12,000	18,000	900
Sponges	622,000	545,000			622,000	545,000						
Hides, alligator	372,000	61,000	119,000	21,000	253,000	40,000						
Hides, porpoise	48,000	1,000	48,000	1,000								
Skins, mink	22,000	89,000	100	500	20,000	77,000			2,600	11,000	100	400
Skins, muskrat	149,000	136,000	64,000	77,000	40,000	16,000			30,000	29,000	14,000	14,000
Skins, otter	7,600	30,000	3,700	15,000	3,900	15,000			(2)	100		
Skins, seal	3,100	8,200	3,100	8,200								
Whalebone	63,000	215,000	31,000	97,000			32,000	119,000				
Livers	657,000	7,400	657,000	7,400								
Sounds, fresh	93,000	4,000	93,000	4,000								
Sounds, salted	2,800	100	2,800	100								
Oil, fish	221,000	9,800	221,000	9,800								
Oil, porpoise	29,000	3,000	29,000	3,000								
Oil, sea-elephant	88,000	3,600	88,000	3,600								
Oil, seal	4,000	400	4,000	400								
Oil, sperm	3,391,000	252,000	3,222,000	240,000			169,000	12,000				
Oil, whale	573,000	30,000	560,000	29,000			13,000	900				
Irish moss	772,000	26,000	772,000	26,000								
Sea grass	252,000	1,700	252,000	1,700								

[1] Less than $100.

[2] Less than 100 pounds.

TABLE 3.—PRODUCTS, BY CLASS OF FISHERIES, APPARATUS OF CAPTURE, AND GEOGRAPHIC DIVISIONS: 1908.

CLASS OF FISHERIES AND KIND OF APPARATUS.	UNITED STATES.		ATLANTIC COAST DIVISION.		GULF OF MEXICO DIVISION.		PACIFIC COAST DIVISION.		MISSISSIPPI RIVER DIVISION.		GREAT LAKES DIVISION.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
All fisheries	1,893,454,000	$54,031,000	1,344,666,000	$35,474,000	117,695,000	$4,825,000	176,150,000	$6,839,000	148,311,000	$3,125,000	106,632,000	$3,767,000
Beam trawls	3,752,000	90,000	3,736,000	89,000			15,000	1,100				
Dredges, tongs, rakes, etc.	356,990,000	18,772,000	233,957,000	15,804,000	44,800,000	1,586,000	2,211,000	697,000	76,222,000	686,000	200,000	800
Harpoons, spears, etc.	3,969,000	294,000	3,426,000	258,000	134,000	7,500			298,000	13,000	112,000	16,000
Lines (hand, trawl, and set)	343,772,000	9,356,000	270,230,000	6,316,000	20,259,000	907,000	43,204,000	1,581,000	7,712,000	358,000	2,367,000	194,000
Nets:												
Fyke and hoop nets	38,050,000	1,218,000	6,043,000	210,000	551,000	21,000	1,419,000	71,000	23,271,000	713,000	6,768,000	203,000
Gill nets	181,224,000	7,536,000	56,816,000	2,596,000	16,018,000	568,000	57,538,000	2,313,000	252,000	10,000	50,600,000	2,049,000
Pound nets, trap nets, and weirs	314,031,000	5,641,000	244,571,000	3,563,000	295,000	18,000	29,213,000	887,000	2,697,000	77,000	37,255,000	1,097,000
Seines	573,593,000	6,002,000	482,587,000	3,525,000	28,353,000	812,000	24,811,000	691,000	29,071,000	895,000	8,239,000	169,000
Trammel nets	15,708,000	486,000	12,000	1,200	4,998,000	149,000	1,951,000	52,000	8,092,000	271,000	655,000	13,000
All other (cast nets, dip nets, lift nets, etc.)	23,582,000	553,000	16,056,000	371,000	632,000	28,000	6,639,000	133,000	177,000	17,000	78,000	4,300
Pots, traps, etc.	23,979,000	2,589,000	18,275,000	2,185,000	220,000	116,000	4,808,000	208,000	323,000	61,000	353,000	19,000
Sponge apparatus	622,000	545,000			622,000	545,000						
Whaling apparatus	3,710,000	468,000	3,495,000	336,000			214,000	132,000				
Wheels and slides	1,958,000	100,000	123,000	1,900			1,836,000	98,000				
Minor apparatus	8,515,000	380,000	5,340,000	218,000	673,000	68,000	2,291,000	67,000	197,000	24,000	14,000	2,700
Vessel fisheries	896,914,000	22,232,000	769,476,000	17,006,000	37,597,000	1,682,000	50,788,000	1,912,000	2,484,000	61,000	35,569,000	1,571,000
Beam trawls	2,867,000	70,000	2,852,000	69,000			15,000	1,100				
Dredges, tongs, rakes, etc.	122,432,000	9,002,000	107,393,000	8,440,000	14,663,000	459,000	377,000	104,000				
Harpoons, spears, etc.	3,039,000	228,000	3,023,000	227,000	16,000	600						
Lines (hand, trawl, and set)	245,836,000	6,983,000	192,718,000	4,822,000	13,759,000	623,000	38,530,000	1,468,000			828,000	69,000
Nets:												
Fyke and hoop nets	1,793,000	42,000	1,013,000	23,000					439,000	13,000	341,000	6,800
Gill nets	52,980,000	1,974,000	18,019,000	499,000	293,000	15,000	86,000	6,700			34,582,000	1,453,000
Pound nets, trap nets, and weirs	26,184,000	374,000	25,002,000	341,000							582,000	33,000
Seines	429,521,000	2,304,000	413,177,000	2,023,000	7,402,000	120,000	6,818,000	111,000	2,012,000	47,000	114,000	2,700
Trammel nets	1,027,000	30,000	500	(1)	978,000	29,000	15,000	400	33,000	1,000		
All other (cast nets, dip nets, lift nets, etc.)	4,859,000	93,000	129,000	5,400			4,718,000	87,000			12,000	900
Pots, traps, etc.	1,884,000	211,000	1,761,000	204,000			15,000	1,900			109,000	4,700
Sponge apparatus	487,000	436,000			487,000	436,000						
Whaling apparatus	3,710,000	468,000	3,495,000	336,000			214,000	132,000				
Minor apparatus	295,000	16,000	294,000	16,000					600	(1)		
Shore and boat fisheries	996,540,000	31,798,000	575,190,000	18,468,000	80,098,000	3,142,000	125,362,000	4,928,000	145,827,000	3,064,000	70,063,000	2,196,000
Beam trawls	884,000	20,000	884,000	20,000								
Dredges, tongs, rakes, etc.	234,558,000	9,770,000	126,564,000	7,364,000	29,738,000	1,127,000	1,535,000	593,000	76,222,000	686,000	200,000	800
Harpoons, spears, etc.	930,000	66,000	403,000	31,000	118,000	6,600			298,000	13,000	112,000	16,000
Lines (hand, trawl, and set)	97,936,000	2,373,000	77,512,000	1,494,000	6,500,000	284,000	4,673,000	113,000	7,712,000	358,000	1,539,000	125,000
Nets:												
Fyke and hoop nets	36,257,000	1,175,000	5,030,000	187,000	551,000	21,000	1,419,000	71,000	22,832,000	700,000	6,426,000	196,000
Gill nets	128,243,000	5,561,000	38,797,000	2,097,000	15,725,000	552,000	57,452,000	2,306,000	252,000	10,000	16,018,000	595,000
Pound nets, trap nets, and weirs	287,847,000	5,266,000	218,969,000	3,222,000	295,000	18,000	29,213,000	887,000	2,697,000	77,000	36,673,000	1,063,000
Seines	144,071,000	3,698,000	69,410,000	1,502,000	21,491,000	622,000	17,994,000	491,000	27,060,000	847,000	8,117,000	166,000
Trammel nets	14,681,000	456,000	11,000	1,000	4,020,000	120,000	1,936,000	51,000	8,059,000	270,000	655,000	13,000
All other (cast nets, dip nets, lift nets, etc.)	18,723,000	460,000	15,928,000	365,000	632,000	28,000	1,921,000	46,000	177,000	17,000	66,000	3,300
Pots, traps, etc.	22,094,000	2,378,000	16,514,000	1,981,000	220,000	116,000	4,793,000	206,000	323,000	61,000	244,000	14,000
Sponge apparatus	136,000	109,000			136,000	109,000						
Wheels and slides	1,958,000	100,000	123,000	1,900			1,836,000	98,000				
Minor apparatus	8,220,000	364,000	5,046,000	202,000	673,000	68,000	2,291,000	67,000	196,000	24,000	14,000	2,700

[1] Less than $100.

TABLE 4.—PRODUCTS, BY SPECIES AND

	SPECIES.	TOTAL		CAUGHT BY—							
				Lines.		Gill nets.		Seines.		Pound nets, trap nets, and weirs.	
		Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1	Total	1,803,454,000	$54,031,000	343,960,000	$9,360,000	181,224,000	$7,536,000	573,405,000	$5,999,000	314,031,000	$5,641,000
	Fish:										
2	Albacore, or horse mackerel	359,000	12,000	18,000	200	32,000	600	500	(1)	309,000	11,000
3	Alewives	89,978,000	589,000	400	(1)	2,211,000	20,000	18,925,000	165,000	66,369,000	372,000
4	Amber-fish (jackfish)	38,000	1,600	38,000	1,600					100	(1)
5	Anchovies	220,000	1,600			55,000	400	165,000	1,200		
6	Barracuda	3,250,000	91,000	501,000	16,000	2,644,000	74,000	600	(1)		
7	Black bass	3,313,000	255,000	1,264,000	92,000	64,000	5,900	1,288,000	102,000	77,000	6,200
8	Black cod	209,000	5,500	209,000	5,500						
9	Bluefish	7,647,000	506,000	3,781,000	307,000	2,029,000	109,000	1,221,000	54,000	534,000	33,000
10	Bonito	1,096,000	39,000	317,000	13,000	293,000	5,600	9,300	400	474,000	19,000
11	Bream and sunfish	4,738,000	120,000	175,000	7,100	28,000	1,300	2,324,000	67,000	197,000	6,400
12	Buffalo fish	16,729,000	498,000	812,000	23,000	131,000	5,600	7,138,000	218,000	828,000	29,000
13	Butterfish	6,855,000	237,000	17,000	800	134,000	8,000	204,000	14,000	6,439,000	214,000
14	Carp, German	42,763,000	1,135,000	1,062,000	35,000	894,000	25,000	24,162,000	611,000	1,224,000	28,000
15	Catfish	17,817,000	785,000	7,012,000	290,000	215,000	11,000	3,795,000	151,000	1,505,000	69,000
16	Cobia	123,000	2,800	100	(1)	52,000	1,500	71,000	1,300		
17	Cod	110,054,000	2,914,000	104,553,000	2,787,000	2,091,000	47,000	1,592,000	33,000	1,813,000	47,000
18	Crappie and strawberry bass	2,794,000	108,000	372,000	21,000	2,300	100	1,132,000	42,000	78,000	3,200
19	Crevalle	1,564,000	28,000	1,269,000	20,000	81,000	2,600	105,000	3,200	80,000	1,800
20	Croaker	8,145,000	225,000	934,000	32,000	428,000	9,500	1,421,000	48,000	5,071,000	130,000
21	Cultus cod	250,000	7,000	211,000	5,900	400	(1)				
22	Cunner	199,000	7,500	600	(1)			1,000	100	2,300	100
23	Cusk	6,344,000	105,000	6,344,000	105,000						
24	Dogfish, or bowfins	1,701,000	22,000	29,000	500	3,300	(1)	817,000	10,000	67,000	900
25	Drum, fresh-water	6,532,000	154,000	812,000	29,000	29,000	600	889,000	24,000	2,326,000	33,000
26	Drum, salt-water	4,576,000	164,000	631,000	25,000	622,000	18,000	2,662,000	96,000	165,000	2,400
27	Eels	3,358,000	203,000	161,000	8,800	6,500	300	218,000	12,000	214,000	12,000
28	Flounders	23,346,000	588,000	4,017,000	91,000	820,000	20,000	1,645,000	43,000	4,369,000	138,000
29	Grouper	1,870,000	42,000	1,779,000	38,000	74,000	3,500	9,300	400	7,500	400
30	Grunts	380,000	19,000	281,000	14,000	86,000	4,400	12,000	500	10,000	500
31	Haddock	39,987,000	1,308,000	57,973,000	1,280,000	180,000	4,100	1,437,000	33,000	398,000	11,000
32	Hake	34,340,000	464,000	33,633,000	458,000	44,000	500	70,000	1,100	593,000	5,100
33	Halibut	34,441,000	1,562,000	34,433,000	1,561,000			9,000	900		
34	Herring	125,050,000	796,000			11,302,000	218,000	33,988,000	198,000	72,868,000	336,000
35	Herring (lake)	41,118,000	980,000	12,000	800	24,726,000	721,000	8,000	200	16,319,000	266,000
36	Hickory shad	876,000	38,000	17,000	800	267,000	10,000	278,000	12,000	237,000	12,000
37	Jewfish	223,000	5,100	171,000	4,000	35,000	700	10,000	400		
38	Jurel	52,000	900	8,800	400			32,000	400	100	(1)
39	Ladyfish	346,000	9,000			1,400	100	320,000	8,400		
40	Ling, or eelpout	326,000	4,500	96,000	1,800	91,000	1,000	500	(1)	102,000	1,300
41	Mackerel, chub	639,000	16,000	7,000	200	173,000	3,100	290,000	5,900	169,000	6,900
42	Mackerel	12,103,000	848,000	173,000	8,300	2,809,000	189,000	8,174,000	608,000	943,000	42,000
43	Menhaden	394,776,000	893,000	100	(1)	1,885,000	3,300	371,636,000	822,000	21,138,000	67,000
44	Minnows	2,200	900					2,200	900		
45	Moonfish, angel-fish, or spadefish	161,000	6,000	1,700	100	39,000	1,800	39,000	1,500	61,000	1,700
46	Mullet	33,703,000	908,000	35,000	2,000	22,743,000	593,000	7,444,000	235,000	88,000	3,300
47	Muskallunge	25,000	1,700	19,000	1,200	200	(1)	800	100	100	(1)
48	Mutton-fish	417,000	9,600	61,000	3,900	52,000	800	288,000	4,300		
49	Paddlefish	1,518,000	49,000	22,000	900	22,000	700	894,000	30,000	16,000	600
50	Perch, white	2,412,000	137,000	52,000	3,200	310,000	20,000	915,000	52,000	751,000	39,000
51	Perch, yellow	7,998,000	258,000	212,000	9,000	2,401,000	90,000	510,000	26,000	2,502,000	74,000
52	Permit	24,000	1,000	2,600	100	8,800	300	5,700	200		
53	Pikefish, or hogfish	777,000	32,000	161,000	8,200	129,000	4,300	432,000	12,000	53,000	7,100
54	Pike and pickerel	2,939,000	174,000	232,000	16,000	144,000	9,800	587,000	27,000	1,303,000	74,000
55	Pike perch	15,247,000	380,000	276,000	23,000	8,057,000	277,000	155,000	13,000	6,286,000	246,000
56	Pollack	29,462,000	402,000	20,164,000	309,000	551,000	6,900	6,812,000	61,000	1,893,000	26,000
57	Pompano	570,000	71,000	13,000	1,800	377,000	49,000	144,000	16,000	24,000	3,300
58	Porgy	133,000	6,900	110,000	5,700	16,000	900	4,600	100	2,600	200
59	Porkfish	35,000	2,800	15,000	1,200	16,000	1,300			3,000	300
60	Redfish, or rosefish	305,000	2,800	302,000	2,700	3,200	(1)	200	(1)		
61	Rock bass	107,000	5,100	30,000	2,000	200	(1)	15,000	800	15,000	500
62	Rockfish	2,454,000	66,000	2,255,000	58,000	59,000	1,200	77,000	3,500		
63	Round robin	26,000	500					22,000	400		
64	Sacramento pike	20,000	500			20,000	500				
65	Sailor's choice, or pinfish	1,720,000	39,000	108,000	6,000	369,000	11,000	1,017,000	17,000	130,000	1,500
66	Salmon	99,417,000	3,347,000	301,000	11,000	46,219,000	1,941,000	13,290,000	415,000	28,744,000	882,000
67	Sardines	4,638,000	30,000								
68	Scup	8,414,000	290,000	634,000	23,000	86,000	400	4,552,000	30,000		
69	Sea bass	6,352,000	284,000	5,550,000	244,000	14,000	400	1,836,000	58,000	5,926,000	207,000
70	Sea robin	115,000	700			46,000	2,100	352,000	13,000	392,000	23,000
71	Shad	27,641,000	2,113,000	2,100	100	1,300	(1)	1,000	(1)	113,000	700
						15,586,000	1,284,000	2,552,000	172,000	8,993,000	619,000

[1] Includes bag nets, bow nets, cast nets, cockle nets and traps, crab nets, cunner nets and traps, dip nets, paranzella nets, shrimp nets, stop nets, turtle nets, wheels and slides, and beam trawls.

BY APPARATUS OF CAPTURE: 1908.

	CAUGHT BY—(continued.)															
	Fyke and hoop nets.		Trammel nets.		All other nets.[1]		Pots, traps, etc.		Harpoons, spears, etc.		Dredges, tongs, etc.		All other apparatus.			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds)	Value.		
1	38,050,000	$1,218,000	15,708,000	$486,000	23,582,000	$553,000	23,979,000	$2,589,000	7,679,000	$762,000	356,990,000	$18,772,000	14,848,000	$1,115,000		
2																
3	363,000	4,700			1,990,000	25,000							116,000	1,100		
4			500	(1)												
5																
6									14,000	1,000						
7	210,000	19,000	205,000	18,000	1,500	100	200,000	11,000	3,700	300						
8																
9	21,000	1,100	61,000	2,700												
10	2,500	200														
11	1,296,000	25,000	301,000	6,300	8,400	300	200,000	6,000	8,000	200						
12	6,502,000	179,000	1,260,000	41,000	500	(1)	12,000	700	45,000	1,100						
13	4,500	100			7,200	400										
14	10,067,000	286,000	5,154,000	141,000	115,000	6,000	23,000	1,000	58,000	1,500			2,000	100		
15	4,445,000	219,000	653,000	32,000	24,000	960	163,000	12,000	4,200	200			1,400	(1)		
16					100	(1)										
17	1,000	100											2,500	100		
18	931,000	32,000	275,000	9,900	100	(1)	2,400	100					100	(1)		
19			28,000	600												
20	111,000	2,900	157,000	3,400	21,000	700										
21					38,000	1,100										
22	4,000	200			191,000	7,100										
23																
24	608,000	7,700	171,000	2,400	4,000	100	500	(1)	200	(1)						
25	2,196,000	58,000	245,000	7,400	2,200	100	32,000	1,900					1,300	(1)		
26	3,600	100	441,000	20,000	50,000	2,100			1,500	(1)						
27	178,000	12,000	12,000	700	14,000	800	2,178,000	135,000	257,000	20,000	19,000	1,400	(1)	(1)		
28	2,955,000	75,000	1,990,000	54,000	3,638,000	68,000	20,000	400	185,000	8,800			3,709,000	89,000		
29																
30																
31																
32	500	(1)														
33																
34	14,000	100			6,878,000	45,000										
35	51,000	700	(1)	(1)	3,100	200										
36	27,000	1,300			9,600	600	20,000	800					700	(1)		
37			7,500	100												
38			12,000	100												
39			24,000	500												
40	35,000	500	100	(1)	500	(1)										
41																
42	2,800	200			500	(1)										
43	17,000	200	1,500	(1)												
44																
45			12,000	300	200	(1)			7,700	500						
46	16,000	600	2,932,000	60,000	446,000	13,000										
47	1,100	100							3,600	300						
48					16,000	600										
49	495,000	14,000	63,000	2,300					7,100	300						
50	378,000	22,000			4,600	200							500	(1)		
51	2,230,000	56,000	200	(1)	35,000	2,200			8,100	400						
52									7,000	300						
53	100	(1)	300	(1)	1,600	100										
54	631,000	44,000	17,000	1,000	300	(1)	3,000	100	41,000	1,400			(1)	(1)		
55	420,000	15,000	19,000	1,500					40,000	3,800						
56													1,000	(1)		
57	200	(1)	12,000	1,100												
58																
59																
60																
61	46,000	1,700	600	(1)												
62					63,000	2,400										
63			3,000	100												
64																
65	100	(1)	13,000	400	85,000	3,400										
66	39,000	1,200			1,500	300							1,823,000	97,000		
67																
68	4,200	300														
69	11,000	400	800	(1)			1,100	100								
70																
71	129,000	9,200			379,000	29,000							1,200	200		

[1] Less than $100.

[2] Less than 100 pounds.

TABLE 4.—PRODUCTS, BY SPECIES AND BY

	SPECIES.	TOTAL.		CAUGHT BY—							
				Lines.		Gill nets.		Seines.		Pound nets, trap nets, and weirs.	
		Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
	Fish—Continued.										
1	Shark	75,000	$1,500	72,000	$1,400					2,200	(1)
2	Sheepshead	2,637,000	97,000	185,000	12,000	611,000	$18,000	1,561,000	$53,000	92,000	$3,500
3	Silver hake	10,336,000	93,000	974,000	9,100	280,000	3,600	4,300	(1)	9,068,000	80,000
4	Skates	402,000	4,200	131,000	900	6,400	100	12,000	100	104,000	2,100
5	Smelt	4,340,000	174,000	102,000	12,000	653,000	38,000	2,370,000	78,000	118,000	15,000
6	Snapper, red	13,498,000	636,000	13,498,000	636,000						
7	Snapper, other	356,000	15,000	70,000	4,400	186,000	7,500	76,000	1,900	5,800	500
8	Spanish mackerel	3,806,000	194,000	367,000	16,000	1,747,000	89,000	1,273,000	56,000	370,000	29,000
9	Spot	1,824,000	46,000	112,000	5,000	333,000	9,300	808,000	18,000	431,000	11,000
10	Squeteague	49,869,000	1,776,000	2,038,000	94,000	6,006,000	249,000	16,573,000	581,000	24,135,000	807,000
11	Striped bass	3,657,000	314,000	59,000	6,100	2,053,000	164,000	554,000	52,000	718,000	65,000
12	Sturgeon	2,072,000	137,000	187,000	17,000	775,000	69,000	327,000	18,000	344,000	32,000
13	Suckers	8,535,000	215,000	26,000	1,500	702,000	21,000	645,000	20,000	4,577,000	95,000
14	Surf-fish, or viviparous perch	885,000	21,000	4,100	100	85,000	2,100	796,000	19,000		
15	Swordfish	2,714,000	198,000	7,800	200						
16	Tautog	995,000	37,000	530,000	20,000	4,800	200	35,000	1,400	408,000	14,000
17	Tomcod	289,000	9,100	35,000	1,000	2,000	100	31,000	800	41,000	800
18	Trout, brook	18,000	6,300	18,000	6,300						
19	Trout, lake	12,024,000	800,000	1,495,000	113,000	9,400,000	610,000	1,600	100	1,057,000	77,000
20	White bass	265,000	13,000	13,000	800	1,400	100	8,400	400	152,000	7,300
21	Whitefish	7,722,000	524,000	5,600	400	4,927,000	315,000	13,000	800	2,736,000	204,000
22	Whiting and kingfish	1,614,000	78,000	429,000	29,000	557,000	21,000	477,000	17,600	127,000	9,800
23	Yellowtail	253,000	18,000	88,000	7,800	56,000	5,500	96,000	4,200	8,000	800
24	All other	3,736,000	86,000	1,854,000	41,000	490,000	16,000	597,000	15,000	67,000	1,000
25	Caviar	217,000	95,000	5,500	4,400	125,000	55,000	63,000	18,000	12,000	11,000
26	Frogs	259,000	42,000								
27	Crabs, hard	42,612,000	553,000	26,545,000	287,000	6,600	200	244,000	5,300	218,000	1,400
28	Crabs, soft	10,301,000	339,000	165,000	11,000	700	(1)	113,000	15,000		
29	Crabs, king	7,643,000	25,000					580,000	700	4,639,000	18,000
30	Crabs, spider	7,200	(1)							7,200	(1)
31	Crabs, stone	62,000	3,700	40,000	2,600	6,800	400			900	100
32	Crawfish	614,000	32,000	1,800	100			500	(1)		
33	Lobster	15,279,000	1,931,000			500	100			6,900	900
34	Spiny lobster	626,000	71,000			13,000	600			1,800	100
35	Shrimp and prawn	19,080,000	494,000	(1)	(1)			17,194,000	385,000	1,000	200
36	Abalone	1,005,000	16,000								
37	Clams, hard	7,805,000	1,317,000								
38	Clams, soft	8,654,000	553,000								
39	Clams, razor	259,000	25,000								
40	Clams, surf	265,000	21,000								
41	Oysters, market, from public areas	103,641,000	4,416,000								
42	Oysters, market, from private areas	74,652,000	8,305,000								
43	Oysters, seed, from public areas	26,960,000	1,035,000								
44	Oysters, seed, from private areas	28,056,000	1,957,000								
45	Scallops and scallop rims	2,432,000	317,000								
46	Cockles, winkles, and conchs	146,000	35,000								
47	Mussels	8,542,000	12,000								
48	Mussel shells	81,869,000	392,000								
49	Other shells	952,000	8,400			300	1,300				
50	Pearls and slugs		300,000								
51	Squid	2,562,000	43,000	121,000	2,200	2,000	100	120,000	4,600	2,293,000	35,000
52	Terrapin	368,000	80,000			6,800	2,700	169,000	43,000	3,300	2,200
53	Turtles	1,088,000	40,000	47,000	2,100	128,000	11,000	281,000	7,600	41,000	700
54	Sponges	622,000	545,000								
55	Hides, alligator	372,000	61,000					(1)	(1)		
56	Hides, porpoise	48,000	1,000					48,000	1,000		
57	Skins, mink	22,000	89,000								
58	Skins, muskrat	149,000	136,000								
59	Skins, otter	7,600	30,000								
60	Skins, seal	3,100	8,200							(1)	(1)
61	Whalebone	63,000	215,000								
62	Livers	657,000	7,400	653,000	7,300	4,000	(1)				
63	Sounds	96,000	4,100	96,000	4,100						
64	Oil, fish	221,000	9,500	221,000	9,500						
65	Oil, porpoise	29,000	3,000					21,000	2,200		
66	Oil, sea-elephant	88,000	3,600								
67	Oil, seal	4,000	400								
68	Oil, sperm	3,391,000	252,000								
69	Oil, whale	573,000	30,000								
70	Irish moss	772,000	26,000								
71	Sea grass	252,000	1,700								

[1] Includes bag nets, bow nets, cast nets, cockle nets and traps, crab nets, cunner nets and traps, dip nets, paranzella nets, shrimp nets, stop nets, turtle nets, wheels and slides, and beam trawls.

APPARATUS OF CAPTURE: 1908—Continued.

	CAUGHT BY—(continued.)															
	Fyke and hoop nets.		Trammel nets.		All other nets.[1]		Pots, traps, etc.		Harpoons, spears, etc.		Dredges, tongs, etc.		All other apparatus.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1														
2			161,000	$7,300	27,000	$1,100			300	(1)				
3	10,000	$200												
4					124,000	1,000							25,000	$100
5	1,400	300			1,096,000	31,000								
6														
7			18,000	700	800	(1)								
8	12,000	1,300	37,000	2,000	200	(1)								
9	2,900	100	125,000	2,400	13,000	500								
10	446,000	9,300	621,000	34,000	46,000	2,300			2,000	$100				
11	191,000	19,000	9,000	1,200	70,000	6,000							4,300	300
12	89,000	3,300	336,000	16,000									14,000	1,300
13	2,262,000	66,000	285,000	8,000	29,000	1,400	21,000	$1,100	5,700	100			1,600	100
14														
15									2,706,000	198,000				
16	14,000	600					2,600	200						
17	74,000	1,500			105,000	4,900								
18														
19	10,000	800												
20	86,000	4,000	3,400	100										
21	40,000	3,500												
22	12,000	400	9,000	300	2,900	200								
23			2,000	(1)										
24	4,000	100	1,100	(1)	805,000	12,000	17,000	900						
25	800	400	10,000	6,300					200	(1)				
26					22,000	2,300	4,000	500	50,000	8,400			184,000	30,000
27	43,000	500	1,500	100	1,266,000	22,000	4,316,000	131,000			9,971,000	$105,000	600	100
28					3,298,000	132,000					6,716,000	199,000	8,300	900
29											19,000	100	2,405,000	3,600
30														
31											8,400	300	6,000	200
32					5,600	600	606,000	31,000						
33							15,272,000	1,930,000						
34					30,000	1,000	573,000	69,000	18,000	900				
35					1,730,000	97,000	140,000	12,000					15,000	1,100
36													1,005,000	16,000
37											6,958,000	1,224,000	947,000	93,000
38											7,856,000	504,000	797,000	49,000
39											24,000	3,600	234,000	22,000
40											265,000	21,000		
41											103,142,000	4,408,000	499,000	7,900
42											74,416,000	8,301,000	36,000	4,800
43											25,633,000	997,000	1,327,000	38,000
44											28,056,000	1,957,000		
45					1,800	400					2,430,000	317,000	800	200
46					78,000	21,000	1,500	200			24,000	5,000	44,000	8,800
47											8,472,000	9,900	69,000	1,700
48											81,825,000	392,000	44,000	200
49					721,000	1,800							230,000	5,200
50												300,000		200
51									25,000	400				
52	125,000	11,000	3,800	100	4,600	1,600			400	200			55,000	20,000
53	178,000	5,000	14,000	500	84,000	3,200	800	(1)	158,000	4,700			156,000	5,300
54													622,000	545,000
55									(1)	(1)			372,000	61,000
56														
57							22,000	89,000	(1)	100				
58							139,000	126,000	9,200	9,600				
59							7,600	30,000						
60									1,600	2,200			1,400	6,000
61									63,000	215,000				
62														
63														
64														
65									8,000	800				
66														
67									4,000	400			88,000	3,600
68									3,393,000	251,000			28,000	1,900
69									573,000	30,000				
70											772,000	26,000		
71											182,000	1,300	70,000	500

[1] Less than $100.

[2] Less than 100 pounds.

TABLE 5.—PRODUCTS—DETAIL SUMMARY, BY STATES AND BY SPECIES: 1908.

SPECIES AND STATE.	Quantity (pounds).	Value.
ALL SPECIES.		
United States	1,893,454,000	$54,031,000
Alabama	10,655,000	387,000
Arkansas	12,567,000	207,000
California	47,477,000	1,970,000
Connecticut	66,942,000	2,982,000
Delaware	70,769,000	541,000
Florida	74,687,000	3,389,000
Georgia	14,826,000	701,000
Illinois	74,620,000	1,436,000
Indiana	15,507,000	223,000
Iowa	5,867,000	215,000
Kansas	332,000	28,000
Kentucky	5,390,000	110,000
Louisiana	46,106,000	1,569,000
Maine	173,843,000	3,257,000
Maryland	113,796,000	3,306,000
Massachusetts	244,313,000	7,095,000
Michigan	38,302,000	1,473,000
Minnesota	7,475,000	192,000
Mississippi	20,547,000	556,000
Missouri	6,751,000	271,000
Nebraska	399,000	22,000
New Hampshire	677,000	53,000
New Jersey	74,827,000	3,069,000
New York	76,485,000	4,894,000
North Carolina	101,422,000	1,776,000
Ohio	28,917,000	840,000
Oklahoma	6,700	300
Oregon	28,217,000	1,356,000
Pennsylvania	11,888,000	513,000
Rhode Island	44,254,000	1,752,000
South Carolina	14,104,000	286,000
South Dakota	70,000	4,200
Tennessee	4,596,000	112,000
Texas	10,439,000	446,000
Virginia	312,515,000	4,716,000
Washington	100,456,000	3,513,000
West Virginia	33,000	3,000
Wisconsin	30,953,000	1,067,000
ALBACORE, OR HORSE MACKEREL.		
United States	359,000	12,000
California	50,000	800
Massachusetts	92,000	5,400
New Jersey	207,000	5,600
New York	10,000	400
ALEWIVES.		
United States	89,978,000	589,000
Fresh	80,945,000	455,000
Salted	8,840,000	130,000
Smoked	193,000	3,500
Connecticut	1,025,000	12,000
Delaware	794,000	8,400
Florida	1,224,000	5,500
Georgia	32,000	1,000
Maine	2,055,000	18,000
Fresh	1,781,000	12,000
Salted	112,000	2,000
Smoked	192,000	3,400
Maryland	28,805,000	157,000
Fresh	24,451,000	98,000
Salted	4,354,000	59,000
Massachusetts	4,062,000	45,000
Fresh	3,038,000	29,000
Salted	1,024,000	15,000
New Hampshire	121,000	1,800
New Jersey	1,309,000	12,000
New York	654,000	7,100
North Carolina	16,928,000	140,000
Fresh	7,724,000	88,000
Salted	9,205,000	52,000
Smoked	1,200	(1)
Pennsylvania	767,000	6,400
Fresh	619,000	5,300
Salted	148,000	1,100
Rhode Island	288,000	4,600
Virginia	37,885,000	171,000
AMBER-FISH (JACKFISH).		
United States	38,000	1,600
Florida	38,000	1,600
Massachusetts	100	(1)
South Carolina	300	(1)
ANCHOVIES.		
United States	220,000	1,600
California	220,000	1,600

[1] Less than $100.
[2] Includes Delaware, Maine, Michigan, Minnesota, and Pennsylvania.
[3] Includes Alabama, Delaware, Louisiana, South Carolina, and Texas.

SPECIES AND STATE.	Quantity (pounds).	Value.
BARRACUDA.		
United States	3,250,000	$91,000
Fresh	3,138,000	87,000
Salted	112,000	3,500
California	3,205,000	88,000
Fresh	3,093,000	84,000
Salted	112,000	3,500
Florida	45,000	3,100
BLACK BASS.		
United States	3,313,000	255,000
Alabama	36,000	3,500
Arkansas	292,000	20,000
California	82,000	8,200
Florida	1,070,000	58,000
Georgia	6,000	600
Illinois	532,000	57,000
Iowa	54,000	5,600
Kentucky	7,100	700
Louisiana	40,000	3,300
Maryland	15,000	1,500
Mississippi	15,000	1,000
Missouri	339,000	27,000
New York	38,000	5,100
North Carolina	511,000	40,000
Tennessee	177,000	13,000
Texas	17,000	1,200
Virginia	71,000	6,900
Wisconsin	13,000	1,200
All other states [2]	7,400	1,300
BLACK COD.		
United States	209,000	5,500
California	35,000	400
Oregon	5,000	200
Washington	168,000	4,900
BLUEFISH.		
United States	7,647,000	506,000
Fresh	7,594,000	504,000
Salted	52,000	1,900
Connecticut	7,900	700
Florida	962,000	45,000
Fresh	901,000	43,000
Salted	51,000	1,900
Maryland	14,000	700
Massachusetts	42,000	4,300
Mississippi	18,000	800
New Jersey	1,850,000	99,000
New York	3,191,000	291,000
North Carolina	1,256,000	45,000
Fresh	1,255,000	45,000
Salted	1,400	100
Pennsylvania	7,500	800
Rhode Island	40,000	3,700
Virginia	242,000	14,000
All other states [3]	25,000	1,200
BONITO.		
United States	1,096,000	39,000
California	329,000	6,100
Florida	11,000	400
Massachusetts	65,000	4,000
New Jersey	578,000	22,000
New York	102,000	5,400
North Carolina	11,000	200
Virginia	200	(1)
BREAM AND SUNFISH.		
United States	4,738,000	120,000
Alabama	9,100	000
Arkansas	228,000	6,000
Florida	1,547,000	50,000
Illinois	1,714,000	31,000
Iowa	127,000	2,700
Louisiana	40,000	2,200
Michigan	48,000	1,300
Minnesota	66,000	2,300
Mississippi	14,000	600
Missouri	441,000	9,600
New York	31,000	900
North Carolina	168,000	5,000
Tennessee	148,000	3,700
Virginia	58,000	1,200
Wisconsin	75,000	1,700
All other states [4]	27,000	1,100

[4] Includes Delaware, Georgia, Indiana, Kansas, Kentucky, Maryland, Ohio, South Carolina, and Texas.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
BUFFALO FISH.		
United States	16,729,000	$498,000
Alabama	226,000	11,000
Arkansas	2,051,000	43,000
Illinois	3,042,000	117,000
Indiana	124,000	7,000
Iowa	566,000	23,000
Kansas	35,000	2,000
Kentucky	530,000	21,000
Louisiana	2,626,000	50,000
Minnesota	664,000	22,000
Mississippi	1,664,000	34,000
Missouri	993,000	30,000
Nebraska	65,000	2,200
Ohio	9,000	800
Oklahoma	1,200	(1)
South Dakota	32,000	1,200
Tennessee	704,000	22,000
Texas	240,000	7,400
West Virginia	300	(1)
Wisconsin	3,178,000	103,000
BUTTERFISH.		
United States	6,855,000	237,000
California	89,000	13,000
Connecticut	102,000	4,100
Delaware	700	(1)
Florida	16,000	400
Maine	6,400	300
Maryland	151,000	7,400
Massachusetts	67,000	3,500
New Jersey	2,054,000	51,000
New York	1,229,000	64,000
North Carolina	1,302,000	29,000
Rhode Island	1,112,000	42,000
Virginia	725,000	21,000
CARP, GERMAN.		
United States	42,763,000	1,135,000
Fresh	42,759,000	1,135,000
Smoked	4,500	700
Alabama	22,000	1,500
Arkansas	175,000	4,100
California	427,000	4,300
Connecticut	7,600	600
Delaware	133,000	6,700
Georgia	38,000	1,200
Illinois	21,642,000	574,000
Indiana	126,000	6,000
Iowa	2,048,000	62,000
Kansas	304,000	19,000
Kentucky	449,000	18,000
Louisiana	12,000	1,000
Maryland	167,000	7,100
Michigan	2,459,000	55,000
Minnesota	1,152,000	26,000
Mississippi	26,000	500
Missouri	2,432,000	60,000
Nebraska	254,000	12,000
New Jersey	220,000	16,000
New York	406,000	31,000
North Carolina	228,000	7,000
Ohio	7,158,000	120,000
Pennsylvania	71,000	2,200
South Dakota	12,000	700
Tennessee	237,000	8,200
Virginia	286,000	8,000
Wisconsin	2,247,000	52,000
Fresh	2,242,000	52,000
Smoked	4,500	700
All other states [2]	42,000	800
CATFISH.		
United States	17,817,000	785,000
Alabama	323,000	17,000
Arkansas	895,000	33,000
California	1,069,000	56,000
Delaware	151,000	7,300
Florida	1,481,000	54,000
Georgia	280,000	15,000
Illinois	2,044,000	96,000
Indiana	102,000	7,800
Iowa	418,000	33,000
Kansas	52,000	4,400
Kentucky	436,000	26,000
Louisiana	4,405,000	143,000
Maryland	409,000	18,000
Michigan	270,000	12,000
Minnesota	208,000	14,000
Mississippi	502,000	19,000
Missouri	1,166,000	$51,000
Nebraska	66,000	6,600
New Jersey	63,000	5,300
New York	247,000	20,000
North Carolina	504,000	11,000
Ohio	505,000	25,000
Oregon	201,000	9,000
Pennsylvania	26,000	1,700
South Dakota	20,000	2,000
Tennessee	367,000	20,000
Texas	560,000	26,000
Virginia	738,000	31,000
West Virginia	9,600	700
Wisconsin	276,000	20,000
All other states [2]	25,000	600
COBIA.		
United States	123,000	2,800
Florida	123,000	2,800
COD.		
United States	110,054,000	2,914,000
Fresh	79,808,000	1,964,000
Salted	30,245,000	950,000
California, salted	3,298,000	94,000
Connecticut	820,000	27,000
Delaware	7,000	400
Maine	20,013,000	439,000
Fresh	17,385,000	351,000
Salted	2,628,000	88,000
Massachusetts	72,819,000	1,955,000
Fresh	53,148,000	1,311,000
Salted	19,671,000	644,000
New Hampshire	135,000	3,900
New Jersey	3,767,000	130,000
New York	2,999,000	99,000
Pennsylvania	50,000	800
Rhode Island	1,497,000	42,000
Washington, salted	4,648,000	124,000
CRAPPIE AND STRAWBERRY BASS.		
United States	2,794,000	108,000
Alabama	23,000	1,200
Arkansas	300,000	13,000
Florida	180,000	7,400
Illinois	1,281,000	35,000
Iowa	115,000	4,700
Kansas	500	(1)
Kentucky	12,000	900
Louisiana	96,000	6,400
Minnesota	97,000	6,000
Mississippi	93,000	5,000
Missouri	336,000	17,000
North Carolina	24,000	1,000
Tennessee	186,000	7,800
Texas	41,000	2,900
Wisconsin	10,000	400
CREVALLÉ.		
United States	1,564,000	28,000
Alabama	5,200	100
Florida	1,435,000	24,000
Louisiana	24,000	1,400
Mississippi	600	(1)
Texas	19,000	800
Virginia	80,000	1,800
CROAKER.		
United States	8,143,000	226,000
Alabama	72,000	1,400
California	58,000	1,800
Delaware	79,000	2,900
Florida	94,000	2,100
Georgia	46,000	1,800
Louisiana	369,000	28,000
Maryland	179,000	5,300
Mississippi	178,000	3,700
New Jersey	790,000	19,000
New York	7,500	200
North Carolina	1,177,000	31,000
Pennsylvania	14,000	500
South Carolina	85,000	2,800
Texas	139,000	7,000
Virginia	4,539,000	119,000

[1] Less than $100.
[2] Includes Florida, Oregon, Texas, and West Virginia.
[3] Includes Connecticut, Oklahoma, Rhode Island, and South Carolina.

571
142
713
Kan

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
CULTUS COD.		
United States	250,000	$7,000
California	167,000	4,800
Oregon	20,000	800
Washington	62,000	1,400
CUNNER.		
United States	199,000	7,500
Maine	93,000	1,600
Massachusetts	102,000	5,600
Rhode Island	5,000	300
CUSK.		
United States	6,344,000	105,000
Fresh	6,242,000	103,000
Salted	103,000	2,200
Maine	2,078,000	32,000
Fresh	2,039,000	31,000
Salted	39,000	900
Massachusetts	4,267,000	73,000
Fresh	4,203,000	72,000
Salted	64,000	1,300
DOGFISH, OR BOWFINS.		
United States	1,701,000	22,000
Illinois	1,370,000	18,000
Michigan	85,000	1,200
Missouri	34,000	700
New York	42,000	600
North Carolina	101,000	1,400
All other states [1]	69,000	600
DRUM, FRESH-WATER.		
United States	6,532,000	154,000
Alabama	151,000	10,000
Arkansas	402,000	8,900
Illinois	666,000	20,000
Indiana	137,000	7,600
Iowa	188,000	5,300
Kansas	18,000	1,100
Kentucky	354,000	16,000
Louisiana	845,000	15,000
Michigan	186,000	1,800
Minnesota	333,000	4,600
Mississippi	337,000	6,600
Missouri	323,000	11,000
Ohio	1,227,000	13,000
Tennessee	204,000	9,500
Texas	13,000	700
Wisconsin	1,096,000	20,000
All other states [2]	50,000	1,200
DRUM, SALT-WATER.		
United States	4,576,000	164,000
Alabama	151,000	6,800
Florida	1,426,000	38,000
Georgia	151,000	5,100
Louisiana	716,000	39,000
Maryland	30,000	500
Mississippi	244,000	11,000
New Jersey	8,700	100
North Carolina	343,000	7,200
South Carolina	109,000	2,500
Texas	1,309,000	52,000
Virginia	78,000	1,500
EELS.		
United States	3,358,000	203,000
Connecticut	111,000	9,100
Delaware	202,000	15,000
Illinois	31,000	1,800
Iowa	5,400	600
Maine	495,000	25,000
Maryland	221,000	13,000
Massachusetts	722,000	32,000
Missouri	17,000	1,000
New Jersey	253,000	22,000
New York	736,000	57,000
North Carolina	258,000	5,600
Pennsylvania	54,000	5,000
Rhode Island	149,000	11,000
Virginia	87,000	4,200
All other states [3]	15,000	1,000

[1] Includes Iowa, Massachusetts, Minnesota, Ohio, Virginia, and Wisconsin.
[2] Includes Delaware, Nebraska, New York, Oklahoma, Pennsylvania, and West Virginia.

SPECIES AND STATE.	Quantity (pounds).	Value.
FLOUNDERS.		
United States	23,346,000	$588,000
Alabama	31,000	1,600
California	6,681,000	144,000
Connecticut	707,000	21,000
Delaware	17,000	1,200
Florida	185,000	8,100
Georgia	7,200	400
Louisiana	71,000	6,000
Maine	31,000	600
Maryland	47,000	2,100
Massachusetts	7,124,000	146,000
Mississippi	38,000	2,000
New Jersey	650,000	25,000
New York	4,629,000	141,000
North Carolina	403,000	16,000
Oregon	23,000	500
Pennsylvania	4,700	200
Rhode Island	1,891,000	50,000
South Carolina	4,700	200
Texas	140,000	6,600
Virginia	189,000	7,400
Washington	474,000	7,000
GROUPER.		
United States	1,870,000	42,000
Fresh	1,864,000	42,000
Salted	6,000	300
Alabama	394,000	3,900
Florida	1,276,000	34,000
Fresh	1,270,000	34,000
Salted	6,000	300
Georgia	160,000	2,900
South Carolina	40,000	1,000
GRUNTS.		
United States	389,000	19,000
Florida	388,000	19,000
North Carolina	800	(4)
HADDOCK.		
United States	59,987,000	1,308,000
Fresh	58,946,000	1,286,000
Salted	1,042,000	22,000
Connecticut	24,000	900
Maine	10,513,000	243,000
Fresh	10,444,000	242,000
Salted	69,000	1,300
Massachusetts	48,492,000	1,038,000
Fresh	47,519,000	1,017,000
Salted	973,000	21,000
New Hampshire	100,000	2,700
New Jersey	20,000	600
New York	424,000	12,000
Rhode Island	415,000	11,000
HAKE.		
United States	34,340,000	464,000
Fresh	33,815,000	455,000
Salted	525,000	8,900
Connecticut	500	(4)
Maine	17,398,000	168,000
Fresh	17,104,000	164,000
Salted	295,000	4,100
Massachusetts	16,708,000	294,000
Fresh	16,478,000	289,000
Salted	230,000	4,800
New Hampshire	13,000	100
New Jersey	181,000	1,600
New York	39,000	1,000
Rhode Island	2,300	100
HALIBUT.		
United States	34,441,000	1,562,000
Fresh	33,785,000	1,509,000
Salted	656,000	53,000
Connecticut	8,500	600
Maine	200,000	15,000
Massachusetts	4,145,000	310,000
Fresh	3,489,000	257,000
Salted	656,000	53,000
Oregon	16,000	700
Washington	30,072,000	1,236,000

[3] Includes Arkansas, Georgia, Indiana, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Tennessee, and Wisconsin.
[4] Less than $100.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
HERRING.		
United States	125,050,000	$796,000
Fresh	115,563,000	658,000
Salted	9,253,000	135,000
Smoked	234,000	2,900
California	825,000	11,000
Maine	92,985,000	420,000
Fresh	89,188,000	389,000
Salted	3,563,000	28,000
Smoked	234,000	2,900
Massachusetts	28,501,000	242,000
Fresh	22,812,000	235,000
Salted	5,690,000	107,000
New York	2,600	100
Oregon	15,000	300
Rhode Island	214,000	1,900
Washington	2,506,000	21,000
HERRING, LAKE.		
United States	41,118,000	989,000
Fresh	25,242,000	730,000
Salted	11,951,000	191,000
Smoked	3,925,000	67,000
Illinois	598,000	28,000
Indiana	198,000	8,400
Michigan	14,787,000	304,000
Fresh	5,170,000	149,000
Salted	9,617,000	155,000
Minnesota	2,778,000	38,000
Fresh	1,608,000	21,000
Salted	1,165,000	18,000
Smoked	4,000	200
New York	2,044,000	51,000
Ohio	4,792,000	147,000
Fresh	4,780,000	147,000
Salted	12,000	400
Pennsylvania	3,796,000	90,000
Wisconsin	12,124,000	322,000
Fresh	7,046,000	227,000
Salted	1,157,000	18,000
Smoked	3,921,000	67,000
HICKORY SHAD.		
United States	876,000	38,000
Fresh	859,000	37,000
Salted	17,000	1,000
Alabama	59,000	2,700
Florida	198,000	8,000
Georgia	3,500	200
North Carolina	377,000	20,000
Fresh	360,000	19,000
Salted	17,000	1,000
South Carolina	3,100	300
Tennessee	2,800	100
Virginia	233,000	6,200
JEWFISH.		
United States	223,000	5,100
Fresh	202,000	4,300
Salted	22,000	800
California	161,000	2,600
Fresh	140,000	1,800
Salted	22,000	800
Florida	14,000	1,100
Louisiana	100	(1)
North Carolina	1,200	100
South Carolina	700	(1)
Texas	46,000	1,300
JUREL.		
United States	52,000	900
Alabama	100	(1)
Florida	52,000	900
LADYFISH.		
United States	346,000	9,000
Fresh	229,000	5,000
Salted	117,000	4,000
Alabama	1,000	(1)
Florida	345,000	9,000
Fresh	228,000	5,000
Salted	117,000	4,000

[1] Less than $100.
[2] Includes Indiana, Kansas, Michigan, New York, and Pennsylvania.

SPECIES AND STATE.	Quantity (pounds).	Value.
LING, OR EELPOUT.		
United States	326,000	$4,500
Illinois	27,000	600
Massachusetts	73,000	1,300
Ohio	100,000	1,300
Wisconsin	42,000	500
All other states [2]	83,000	800
MACKEREL.		
United States	12,103,000	$48,000
Fresh	9,870,000	686,000
Salted	2,233,000	162,000
Connecticut	122,000	8,900
Maine	380,000	31,000
Fresh	378,000	31,000
Salted	2,200	200
Maryland	4,400	900
Massachusetts	10,453,000	761,000
Fresh	8,222,000	600,000
Salted	2,231,000	161,000
New Jersey	501,000	14,000
New York	106,000	6,600
Rhode Island	537,000	25,000
MACKEREL, CHUB.		
United States	639,000	16,000
California	197,000	3,300
Florida	4,500	100
New York	58,000	2,900
Rhode Island	379,000	9,800
MENHADEN.		
United States	394,776,000	893,000
Fresh	394,771,000	893,000
Salted	5,000	200
Alabama	1,200	(1)
Connecticut	28,636,000	93,000
Delaware	59,815,000	152,000
Florida	2,000	(1)
Maryland	12,293,000	30,000
Massachusetts	258,000	1,400
Fresh	253,000	1,300
Salted	5,000	200
Mississippi	3,149,000	3,900
New Jersey	12,417,000	43,000
New York	12,762,000	22,000
North Carolina	57,412,000	70,000
Rhode Island	17,942,000	48,000
Virginia	190,089,000	429,000
MINNOWS.		
United States	2,200	300
Virginia	2,200	900
MOONFISH (ANGEL-FISH, OR SPADEFISH).		
United States	161,000	6,000
Florida	88,000	4,000
North Carolina	53,000	1,300
All other states [2]	20,000	600
MULLET.		
United States	33,703,000	908,000
Fresh	30,682,000	786,000
Salted	3,020,000	122,000
Alabama	1,656,000	33,000
California	3,000	300
Delaware	27,000	1,000
Florida	24,582,000	637,000
Fresh	23,536,000	598,000
Salted	1,046,000	39,000
Georgia	194,000	5,400
Louisiana	133,000	5,600
Maryland	47,000	1,600
Mississippi	1,035,000	20,000
New Jersey	7,600	300
New York	100	(1)
North Carolina	5,070,000	175,000
Fresh	3,185,000	94,000
Salted	1,885,000	80,000
South Carolina	664,000	19,000
Fresh	575,000	16,000
Salted	89,000	3,100
Texas	20,000	900
Virginia	264,000	9,400

[2] Includes Alabama, Louisiana, Mississippi, and Virginia.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
MUSKALLUNGE.		
United States	25,000	$1,700
Michigan	4,000	400
New York	19,000	1,200
Ohio	(1)	(2)
Wisconsin	1,900	200
MUTTON-FISH.		
United States	417,000	9,600
Florida	417,000	9,600
PADDLEFISH.		
United States	1,518,000	49,000
Arkansas	71,000	2,000
Illinois	402,000	12,000
Iowa	6,900	300
Kansas	1,500	100
Kentucky	65,000	1,700
Louisiana	132,000	5,000
Mississippi	463,000	14,000
Missouri	128,000	4,000
Nebraska	20,000	800
Ohio	1,000	100
Tennessee	195,000	7,500
Texas	32,000	800
PERCH, WHITE.		
United States	2,412,000	137,000
Connecticut	7,000	400
Delaware	173,000	14,000
Maine	700	(2)
Maryland	545,000	30,000
Massachusetts	1,300	100
New Jersey	140,000	11,000
New York	90,000	8,700
North Carolina	993,000	44,000
Rhode Island	15,000	900
Virginia	446,000	27,000
PERCH, YELLOW.		
United States	7,898,000	258,000
Delaware	18,000	1,700
Georgia	14,000	600
Illinois	238,000	12,000
Indiana	119,000	7,600
Maryland	359,000	22,000
Massachusetts	19,000	1,000
Michigan	2,378,000	73,000
New Jersey	17,000	1,300
New York	144,000	5,400
North Carolina	360,000	14,000
Ohio	1,441,000	54,000
Pennsylvania	85,000	3,400
Virginia	118,000	5,500
Wisconsin	2,563,000	55,000
All other states [3]	26,000	800
PERMIT.		
United States	24,000	1,000
Florida	24,000	1,000
PIGFISH, OR HOGFISH.		
United States	777,000	32,000
Alabama	400	(2)
Florida	190,000	6,600
North Carolina	476,000	14,000
Texas	2,600	100
Virginia	109,000	11,000
PIKE AND PICKEREL.		
United States	2,959,000	174,000
Delaware	14,000	1,100
Illinois	14,000	1,100
Iowa	61,000	3,200
Maryland	35,000	3,800
Michigan	478,000	32,000
Minnesota	351,000	11,000
Missouri	58,000	1,200
New York	90,000	9,600
North Carolina	89,000	3,100
Ohio	1,118,000	70,000
Pennsylvania	14,000	1,600
Texas	305,000	11,000
Virginia	12,000	1,000
Wisconsin	317,000	23,000
All other states [4]	26,000	1,200
PIKE PERCH.		
United States	15,247,000	$580,000
Illinois	14,000	1,500
Iowa	38,000	2,700
Kentucky	8,400	700
Michigan	1,194,000	98,000
Minnesota	273,000	12,000
Missouri	34,000	2,700
New York	2,001,000	68,000
Ohio	8,625,000	288,000
Pennsylvania	2,956,000	98,000
Wisconsin	88,000	6,900
All other states [5]	16,000	1,400
POLLACK.		
United States	29,462,000	402,000
Fresh	28,078,000	375,000
Salted	1,384,000	27,000
Connecticut	25,000	800
Maine	8,941,000	75,000
Fresh	8,477,000	69,000
Salted	464,000	6,300
Massachusetts	20,036,000	313,000
Fresh	19,086,000	292,000
Salted	920,000	21,000
New Hampshire	6,300	100
New Jersey	84,000	1,100
New York	133,000	3,500
Rhode Island	266,000	7,800
POMPANO.		
United States	570,000	71,000
Florida	508,000	65,000
North Carolina	11,000	700
Texas	18,000	1,100
Virginia	20,000	3,100
All other states [6]	14,000	1,400
PORGY.		
United States	133,000	6,900
Fresh	128,000	6,600
Salted	5,000	300
Florida	133,000	6,900
Fresh	128,000	6,600
Salted	5,000	300
PORKFISH.		
United States	35,000	2,800
Florida	35,000	2,800
REDFISH, OR ROSEFISH.		
United States	305,000	2,800
Maine	2,000	100
Massachusetts	303,000	2,700
ROCK BASS.		
United States	107,000	5,100
Arkansas	15,000	900
Illinois	6,200	800
Michigan	57,000	2,100
Mississippi	12,000	700
All other states [7]	16,000	700
ROCKFISH.		
United States	2,454,000	66,000
Fresh	2,445,000	65,000
Salted	8,800	300
California	2,319,000	60,000
Fresh	2,310,000	60,000
Salted	8,800	300
Oregon	3,000	100
Washington	132,000	5,200
ROUND ROBIN.		
United States	26,000	500
Florida	26,000	500
SACRAMENTO PIKE.		
United States	20,000	500
California	20,000	500

[1] Less than 100 pounds.
[2] Less than $100.
[3] Includes Iowa, Minnesota, Tennessee, and Texas.
[4] Includes Arkansas, Connecticut, Florida, Georgia, Indiana, Kansas, Maine, New Jersey, Rhode Island, South Dakota, and Tennessee.
[5] Includes Arkansas, Indiana, Kansas, Louisiana, Nebraska, Tennessee, and West Virginia.
[6] Includes Alabama, Louisiana, Maryland, Massachusetts, Mississippi, and South Carolina.
[7] Includes Kentucky, Minnesota, Missouri, New York, and Wisconsin.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
SAILOR'S CHOICE, OR PINFISH.		
United States	1,720,000	$39,000
Alabama	6,900	100
Florida	1,257,000	32,000
Mississippi	9,200	200
North Carolina	413,000	6,200
South Carolina	34,000	1,000
Virginia	100	(1)
SALMON.		
United States	90,417,000	3,347,000
Fresh	90,379,000	3,345,000
Salted	39,000	1,700
California	9,211,000	471,000
Fresh	9,172,000	470,000
Salted	39,000	1,700
Connecticut	100	(1)
Maine	19,000	3,700
Massachusetts	(2)	(2)
Oregon	26,876,000	1,301,000
Washington	54,312,000	1,571,000
SARDINES.		
United States	4,638,000	30,000
California	4,638,000	30,000
SCUP.		
United States	8,414,000	290,000
Connecticut	95,000	8,500
Maryland	300	(1)
Massachusetts	1,136,000	40,000
New Jersey	1,196,000	35,000
New York	1,294,000	45,000
Pennsylvania	11,000	300
Rhode Island	4,616,000	158,000
Virginia	65,000	3,500
SEA BASS.		
United States	6,352,000	284,000
Connecticut	61,000	5,400
Delaware	300	(1)
Florida	154,000	6,600
Georgia	233,000	14,000
Maryland	225,000	6,800
Massachusetts	114,000	8,400
Mississippi	200	(1)
New Jersey	3,161,000	123,000
New York	723,000	35,000
North Carolina	72,000	3,200
Pennsylvania	860,000	44,000
Rhode Island	197,000	12,000
South Carolina	491,000	22,000
Virginia	63,000	2,900
SEA ROBIN.		
United States	115,000	700
New Jersey	62,000	200
New York	53,000	500
SHAD.		
United States	27,641,000	2,113,000
California	1,169,000	12,000
Connecticut	122,000	18,000
Delaware	870,000	68,000
Florida	2,836,000	320,000
Georgia	1,333,000	190,000
Maine	770,000	42,000
Maryland	3,937,000	247,000
Massachusetts	389,000	12,000
New Jersey	3,004,000	229,000
New York	360,000	27,000
North Carolina	3,942,000	373,000
Oregon	431,000	8,000
Pennsylvania	593,000	38,000
Rhode Island	4,500	400
South Carolina	464,000	41,000
Virginia	7,314,000	486,000
Washington	100,000	1,900
SHARK.		
United States	75,000	1,500
Maryland	300	(1)
New York	1,900	(1)
South Carolina	72,000	1,400
SHEEPSHEAD.		
United States	2,637,000	$97,000
Alabama	24,000	1,200
Florida	1,571,000	38,000
Georgia	64,000	3,700
Louisiana	249,000	18,000
Mississippi	81,000	4,300
North Carolina	249,000	12,000
South Carolina	20,000	900
Texas	288,000	14,000
Virginia	82,000	5,000
All other states [3]	1,000	100
SILVER HAKE.		
United States	10,336,000	93,000
California	32,000	300
Connecticut	179,000	2,100
Maine	25,000	100
Massachusetts	5,589,000	39,000
New Jersey	3,706,000	44,000
New York	268,000	3,700
Rhode Island	534,000	3,600
SKATES.		
United States	402,000	4,200
California	124,000	1,000
Massachusetts	93,000	700
New York	168,000	2,100
All other states [4]	18,000	400
SMELT.		
United States	4,340,000	174,000
California	718,000	41,000
Connecticut	10,000	1,200
Maine	654,000	65,000
Massachusetts	16,000	2,500
New Hampshire	2,500	300
New Jersey	7,500	1,500
New York	4,000	900
Oregon	30,000	800
Rhode Island	1,200	100
Washington	2,897,000	61,000
SNAPPER, RED.		
United States	13,498,000	~~300,000~~
Alabama	2,635,000	92,000
Florida	7,719,000	434,000
Georgia	880,000	30,000
South Carolina	12,000	400
Texas	2,252,000	79,000
SNAPPER, OTHER.		
United States	356,000	15,000
Florida	342,000	15,000
North Carolina	13,000	300
South Carolina	1,000	(1)
SPANISH MACKEREL.		
United States	3,806,000	194,000
Fresh	3,705,000	190,000
Salted	101,000	3,500
Alabama	13,000	600
California	349,000	5,300
Fresh	327,000	4,600
Salted	23,000	700
Florida	2,647,000	122,000
Fresh	2,569,000	120,000
Salted	78,000	2,800
Mississippi	7,100	500
New Jersey	7,100	1,800
North Carolina	457,000	34,000
Texas	42,000	3,400
Virginia	276,000	25,000
All other states [5]	6,200	700
SPOT.		
United States	1,824,000	46,000
Alabama	83,000	1,600
Delaware	15,000	1,300
Florida	178,000	4,200
Maryland	3,100	100
Mississippi	71,000	1,300
New Jersey	255,000	3,100
New York	109,000	2,600
North Carolina	852,000	18,000
South Carolina	66,000	1,800
Virginia	192,000	15,000

[1] Less than $100.
[2] Less than 100 pounds.
[3] Includes Delaware, Maryland, New Jersey, and New York.
[4] Includes New Jersey, North Carolina, Rhode Island, and Virginia.
[5] Includes Connecticut, Louisiana, Maryland, Massachusetts, and New York.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
SQUETEAGUE.		
United States	49,869,000	$1,776,000
Fresh	49,800,000	1,774,000
Salted	68,000	2,000
Alabama	208,000	10,000
California	1,337,000	42,000
Connecticut	180,000	6,800
Delaware	2,590,000	29,000
Florida	4,864,000	196,000
Fresh	4,810,000	194,000
Salted	54,000	2,200
Georgia	140,000	12,000
Louisiana	1,103,000	82,000
Maryland	1,191,000	47,000
Massachusetts	1,971,000	58,000
Mississippi	517,000	28,000
New Jersey	11,814,000	342,000
New York	11,151,000	451,000
North Carolina	4,635,000	206,000
Fresh	4,620,000	206,000
Salted	14,000	600
Pennsylvania	12,000	200
Rhode Island	2,427,000	72,000
South Carolina	183,000	8,700
Texas	1,055,000	46,000
Virginia	4,491,000	139,000
STRIPED BASS.		
United States	3,657,000	314,000
California	1,776,000	135,000
Connecticut	6,500	800
Delaware	53,000	7,300
Florida	9,000	1,000
Georgia	8,900	800
Maine	2,100	400
Maryland	640,000	65,000
Massachusetts	5,100	8 00
New Jersey	53,000	7,400
New York	45,000	7,600
North Carolina	510,000	36,000
Pennsylvania	7,200	800
Rhode Island	34,000	4,700
South Carolina	5,000	300
Virginia	504,000	46,000
STURGEON.		
United States	2,072,000	157,000
Fresh	2,070,000	157,000
Smoked	2,500	500
California	10,000	500
Delaware	31,000	3,200
Florida	62,000	5,000
Georgia	100,000	7,000
Illinois	178,000	6,500
Indiana	52,000	6,800
Iowa	215,000	11,000
Kentucky	60,000	2,400
Maine	8,200	1,000
Maryland	37,000	5,000
Michigan	57,000	7,100
Minnesota	164,000	11,000
Missouri	132,000	5,000
Nebraska	11,000	600
New Jersey	132,000	13,000
New York	105,000	16,000
North Carolina	62,000	6,400
Ohio	8,600	700
Oregon	114,000	6,800
Pennsylvania	16,000	3,700
Virginia	183,000	22,000
Washington	185,000	6,000
Wisconsin	112,000	8,200
Fresh	110,000	7,700
Smoked	2,500	500
All other states [1]	37,000	2,000
SUCKERS.		
United States	8,555,000	215,000
Fresh	8,199,000	208,000
Salted	356,000	6,700
Alabama	80,000	4,600
Connecticut	66,000	3,000
Illinois	281,000	6,400
Indiana	21,000	1,100

[1] Includes Alabama, Arkansas, Connecticut, Kansas, Massachusetts, South Dakota, Tennessee, and West Virginia.
[2] Includes Arkansas, Delaware, Georgia, Kansas, Louisiana, Mississippi, South Dakota, and Virginia.
[3] Includes Connecticut, Massachusetts, New Jersey, Oregon, Rhode Island, and Virginia.

SPECIES AND STATE.	Quantity (pounds).	Value.
SUCKERS—continued.		
Iowa	197,000	$6,600
Kentucky	46,000	2,100
Maine	58,000	900
Michigan	4,467,000	117,000
Fresh	4,235,000	112,000
Salted	232,000	4,900
Minnesota	76,000	800
Missouri	54,000	1,400
New Jersey	74,000	5,900
New York	276,000	13,000
North Carolina	63,000	2,000
Ohio	1,387,000	20,000
Pennsylvania	57,000	1,500
Tennessee	69,000	3,200
West Virginia	6,000	300
Wisconsin	1,212,000	24,000
Fresh	1,089,000	22,000
Salted	123,000	1,900
All other states [2]	65,000	1,700
SURF-FISH, OR VIVIPAROUS PERCH.		
United States	885,000	21,000
California	198,000	5,400
Oregon	26,000	600
Washington	661,000	15,000
SWORDFISH.		
United States	2,714,000	198,000
California	7,800	200
Connecticut	240,000	15,000
Maine	513,000	44,000
Massachusetts	1,642,000	122,000
New York	3,600	200
Rhode Island	308,000	18,000
TAUTOG.		
United States	995,000	37,000
Connecticut	119,000	4,600
Delaware	55,000	2,800
Massachusetts	170,000	6,300
New Jersey	112,000	3,500
New York	81,000	3,100
Rhode Island	458,000	17,000
TOMCOD.		
United States	289,000	9,100
California	49,000	1,500
Maine	117,000	4,600
New York	97,000	2,300
All other states [3]	26,000	700
TROUT, BROOK.		
United States	18,000	6,300
New York	18,000	6,300
TROUT, LAKE.		
United States	12,024,000	800,000
Fresh	11,671,000	781,000
Salted	353,000	19,000
Illinois	150,000	13,000
Indiana	130,000	9,600
Michigan	6,798,000	424,000
Fresh	6,508,000	408,000
Salted	290,000	16,000
Minnesota	215,000	12,000
Fresh	188,000	10,000
Salted	27,000	1,600
New York	20,000	1,400
Ohio	(4)	(5)
Pennsylvania	700	(5)
Wisconsin	4,710,000	340,000
Fresh	4,675,000	339,000
Salted	36,000	1,200
WHITE BASS.		
United States	265,000	13,000
Arkansas	16,000	1,000
Michigan	37,000	1,800
Ohio	172,000	8,200
All other states [6]	39,000	1,600

[4] Less than 100 pounds.
[5] Less than $100.
[6] Includes Illinois, Indiana, Iowa, New York, Pennsylvania, Tennessee, and Wisconsin.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
WHITEFISH.		
United States	7,722,000	$524,000
Fresh	7,366,000	507,000
Salted	342,000	17,000
Smoked	15,000	1,300
Illinois	14,000	800
Indiana	52,000	5,000
Michigan	4,772,000	339,000
Fresh	4,490,000	323,000
Salted	270,000	15,000
Smoked	13,000	1,200
Minnesota	242,000	11,000
Fresh	241,000	11 000
Salted	1,000	100
New York	179,000	15,000
Ohio	732,000	60,000
Pennsylvania	455,000	37,000
Wisconsin	1,274,000	86,000
Fresh	1,202,000	55,000
Salted	71,000	1,500
Smoked	1,900	100
WHITING AND KINGFISH.		
United States	1,614,000	78,000
Florida	230,000	8,600
Georgia	96,000	9,400
New Jersey	25,000	3,400
New York	34,000	4,900
North Carolina	817,000	28,000
South Carolina	274,000	17,000
Texas	9,900	500
Virginia	95,000	4,800
All other states [1]	22,000	1,200
YELLOWTAIL.		
United States	253,000	18,000
Alabama	1,100	(2)
Florida	170,000	14,000
Louisiana	64,000	3,200
South Carolina	17,000	600
OTHER FISH.		
United States	4,522,000	101,000
California	2,372,000	45,000
Connecticut	12,000	700
Florida	366,000	18,000
Louisiana	150,000	5,000
Maryland	25,000	1,200
Massachusetts	599,000	8,000
New York	242,000	5,800
Oregon	36,000	1,000
Washington	660,000	15,000
All other states [3]	60,000	1,600
CAVIAR.		
United States	217,000	95,000
Arkansas	800	700
Delaware	3,100	3,900
Florida	135,000	16,000
Illinois	1,300	800
Iowa	8,600	5,300
Louisiana	5,500	4,400
Maryland	8,100	11,000
Michigan	3,500	1,200
Mississippi	4,100	4,000
New Jersey	9,700	10,000
New York	5,100	7,500
Pennsylvania	500	500
Tennessee	3,200	700
Texas	700	700
Virginia	22,000	27,000
Wisconsin	900	600
All other states [4]	2,000	1,200
FROGS.		
United States	259,000	42,000
Arkansas	27,000	4,000
Delaware	1,900	700
Illinois	25,000	6,800
Iowa	2,500	300
Louisiana	35,000	4,500
Maryland	1,000	500
Minnesota	66,000	7,900
Missouri	67,000	11,000
North Carolina	5,400	900
Ohio	4,000	600
Tennessee	5,000	1,000
Virginia	3,000	700
Wisconsin	14,000	2,600

[1] Includes Alabama, Delaware, Maryland, Mississippi, and Rhode Island.
[2] Less than $100.

SPECIES AND STATE.	Quantity (pounds).	Value.
CRABS, HARD.		
United States	42,612,000	$553,000
Alabama	246,000	6,100
California	1,702,000	69,000
Delaware	57,000	600
Florida	148,000	2,900
Georgia	196,000	7,500
Louisiana	244,000	7,800
Maryland	12,786,000	124,000
Massachusetts	121,000	2,400
Mississippi	380,000	9,800
New Jersey	282,000	9,100
New York	580,000	7,400
North Carolina	113,000	1,100
Oregon	200,000	6,900
Rhode Island	146,000	2,900
South Carolina	33,000	900
Texas	199,000	4,800
Virginia	23,001,000	239,000
Washington	2,179,000	51,000
CRABS, SOFT.		
United States	10,301,000	359,000
Delaware	142,000	8,400
Louisiana	78,000	21,000
Maryland	7,587,000	195,000
Massachusetts	1,800	200
Mississippi	47,000	5,600
New Jersey	63,000	6,200
New York	22,000	2,300
North Carolina	277,000	33,000
Texas	600	200
Virginia	2,082,000	87,000
CRABS, KING.		
United States	7,643,000	23,000
Delaware	2,980,000	4,300
New Jersey	4,607,000	18,000
New York	56,000	100
CRABS, STONE.		
United States	62,000	3,700
Florida	62,000	3,700
CRAWFISH.		
United States	614,000	32,000
Louisiana	88,000	3,600
Oregon	178,000	14,000
Wisconsin	348,000	14,000
LOBSTERS.		
United States	15,279,000	1,931,000
Connecticut	661,000	84,000
Delaware	5,500	800
Maine	9,929,000	1,209,000
Massachusetts	2,455,000	307,000
New Hampshire	264,000	43,000
New Jersey	115,000	16,000
New York	423,000	57,000
Rhode Island	1,425,000	152,000
SPINY LOBSTERS.		
United States	626,000	71,000
California	573,000	69,000
Florida	53,000	2,600
SHRIMP AND PRAWN.		
United States	19,080,000	494,000
Alabama	37,000	1,200
California	258,000	31,000
Florida	4,353,000	92,000
Georgia	528,000	19,000
Louisiana	8,581,000	213,000
Massachusetts	5,800	1,300
Mississippi	4,121,000	81,000
New Jersey	4,900	1,000
New York	1,500	600
North Carolina	371,000	9,000
South Carolina	452,000	19,000
Tennessee	1,700	200
Texas	118,000	4,400
Washington	247,000	22,000

[3] Includes Alabama, Indiana, Illinois, Kansas, Maine, Michigan, Mississippi, New Jersey, North Carolina, Ohio, Rhode Island, Texas, and Virginia.
[4] Includes Indiana, Maine, Minnesota, Missouri, North Carolina, and Ohio.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
ABALONE.		
United States	1,005,000	$16,000
California	1,005,000	16,000
CLAMS, HARD.		
United States	7,805,000	1,317,000
California	132,000	4,500
Connecticut	100,000	20,000
Delaware	6,800	1,300
Florida	239,000	15,000
Georgia	43,000	9,400
Louisiana	100	(1)
Maryland	82,000	16,000
Massachusetts	1,119,000	189,000
New Jersey	2,184,500	318,000
New York	809,000	223,000
North Carolina	726,000	82,000
Oregon	700	100
Rhode Island	162,000	39,000
South Carolina	76,000	6,300
Virginia	1,969,000	389,000
Washington	155,000	13,000
CLAMS, SOFT.		
United States	8,654,000	553,000
California	468,000	5,300
Connecticut	42,000	5,500
Maine	5,061,000	251,000
Massachusetts	1,916,000	186,000
New Jersey	235,000	11,000
New York	656,000	54,000
Oregon	30,000	2,000
Rhode Island	275,000	38,000
CLAMS, RAZOR.		
United States	289,000	25,000
Massachusetts	24,000	3,600
Washington	234,000	22,000
CLAMS, SURF.		
United States	265,000	21,000
New Jersey	99,000	7,000
New York	167,000	14,000
OYSTERS.		
United States	233,309,000	15,713,000
Market	178,293,000	12,721,000
From public areas	103,641,000	4,416,000
From private areas	74,652,000	8,305,000
Seed	55,016,000	2,992,000
From public areas	26,960,000	1,035,000
From private areas	28,056,000	1,957,000
Alabama	4,132,000	173,000
Market	3,754,000	169,000
From public areas	3,314,000	132,000
From private areas	440,000	37,000
Seed, from public areas	378,000	4,100
California, market, from private areas	729,000	337,000
Connecticut	27,636,000	2,585,000
Market	9,762,000	1,168,000
From public areas	44,000	4,400
From private areas	9,718,000	1,163,000
Seed	17,874,000	1,415,000
From public areas	1,478,000	99,000
From private areas	16,396,000	1,317,000
Delaware	2,434,000	169,000
Market	1,082,000	112,000
From public areas	177,000	10,000
From private areas	905,000	102,000
Seed	1,352,000	57,000
From public areas	1,303,000	53,000
From private areas	49,000	3,500
Florida, market	7,467,000	296,000
From public areas	7,327,000	284,000
From private areas	141,000	12,000
Georgia	10,214,000	339,000
Market	10,053,000	334,000
From public areas	3,484,000	121,000
From private areas	6,569,000	213,000
Seed	161,000	4,600
From public areas	63,000	1,800
From private areas	98,000	2,800
Louisiana	25,553,000	763,000
Market	20,762,000	675,000
From public areas	13,363,000	341,000
From private areas	7,399,000	334,000
Seed	4,791,000	88,000
From public areas	4,091,000	82,000
From private areas	700,000	6,200
Maine, market, from public areas	1,000	200
Maryland	43,624,000	$2,228,000
Market	40,811,000	2,127,000
From public areas	39,718,000	2,041,000
From private areas	1,094,000	86,000
Seed, from public areas	2,812,000	101,000
Massachusetts	1,084,000	218,000
Market	868,000	203,000
From public areas	4,900	900
From private areas	863,000	202,000
Seed	216,000	15,000
From public areas	43,000	3,100
From private areas	173,000	12,000
Mississippi, market	7,473,000	295,000
From public areas	7,423,000	292,000
From private areas	50,000	3,300
New Jersey	18,105,000	1,369,000
Market	6,437,000	884,000
From public areas	107,000	12,000
From private areas	6,330,000	872,000
Seed	11,668,000	485,000
From public areas	5,402,000	236,000
From private areas	6,266,000	248,000
New York	17,344,000	2,553,000
Market	12,946,000	2,173,000
From public areas	151,000	18,000
From private areas	12,795,000	2,155,000
Seed	4,298,000	381,000
From public areas	628,000	45,000
From private areas	3,670,000	336,000
North Carolina	5,690,000	236,000
Market	5,275,000	227,000
From public areas	5,209,000	220,000
From private areas	66,000	7,300
Seed	415,000	8,800
From public areas	401,000	8,500
From private areas	14,000	300
Oregon	9,100	4,200
Market	7,300	4,000
From public areas	2,300	800
From private areas	5,000	3,200
Seed, from public areas	1,800	200
Pennsylvania	1,938,000	175,000
Market, from private areas	906,000	134,000
Seed, from public areas	1,032,000	42,000
Rhode Island	8,602,000	989,000
Market, from private areas	8,564,000	967,000
Seed	38,000	2,500
From public areas	21,000	1,500
From private areas	18,000	1,000
South Carolina, market	10,942,000	137,000
From public areas	10,331,000	129,000
From private areas	610,000	8,000
Texas	3,481,000	168,000
Market	3,429,000	167,000
From public areas	3,404,000	166,000
From private areas	24,000	1,200
Seed, from public areas	52,000	600
Virginia	35,525,000	2,348,000
Market	25,705,000	1,967,000
From public areas	9,581,000	645,000
From private areas	16,124,000	1,322,000
Seed	9,820,000	381,000
From public areas	9,252,000	357,000
From private areas	568,000	24,000
Washington	1,425,000	352,000
Market, from private areas	1,321,000	346,000
Seed, from private areas	104,000	6,500
SCALLOPS AND SCALLOP RIMS.		
United States	2,432,000	317,000
Florida	400	100
Maine	1,257,000	96,000
Massachusetts	502,000	120,000
New York	650,000	96,000
Rhode Island	4,000	600
Virginia	19,000	2,400
COCKLES, WINKLES, AND CONCHS.		
United States	146,000	35,000
Florida	15,000	1,000
Louisiana	200	(1)
Massachusetts	130,000	34,000
Rhode Island	1,500	200
MUSSELS.		
United States	8,542,000	12,000
California	68,000	1,600
Connecticut	7,200	200
Massachusetts	1,100	100
New Jersey	287,000	1,400
New York	8,175,000	8,200
Rhode Island	3,500	100

[1] Less than $100.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
MUSSEL SHELLS.		
United States	81,869,000	$392,000
Arkansas	8,060,000	42,000
Connecticut	5,403,000	5,400
Illinois	39,809,000	184,000
Indiana	14,431,000	81,000
Iowa	4,699,000	33,000
Kentucky	3,413,000	18,000
Michigan	200,000	800
Minnesota	767,000	4,700
Missouri	170,000	1,000
Ohio	1,597,000	6,600
Tennessee	2,170,000	9,400
Wisconsin	1,150,000	6,900
OTHER SHELLS.		
United States	952,000	8,400
California	951,000	7,100
Florida	300	1,300
PEARLS AND SLUGS.		
United States		$300,000
Arkansas		28,000
Illinois		170,000
Indiana		74,000
Iowa		11,000
Kentucky		1,900
Minnesota		3,700
Missouri		600
Ohio		400
Tennessee		4,200
Wisconsin		5,400
SQUID.		
United States	2,562,000	43,000
California	110,000	4,400
Connecticut	21,000	400
Maine	6,100	(1)
Maryland	6,900	200
Massachusetts	1,837,000	20,000
New Jersey	100,000	3,100
New York	189,000	8,100
Rhode Island	292,000	6,600
TERRAPIN.		
United States	368,000	80,000
Alabama	4,400	300
Delaware	2,900	1,900
Florida	21,000	9,400
Georgia	41,000	21,000
Illinois	205,000	13,000
Louisiana	41,000	21,000
Maryland	9,200	4,900
Mississippi	5,100	1,200
Missouri	1,900	100
New Jersey	1,100	1,000
North Carolina	7,700	1,800
South Carolina	12,000	2,400
Texas	15,000	1,600
Virginia	400	400
TURTLES.		
United States	1,088,000	40,000
California	38,000	1,300
Delaware	54,000	2,500
Florida	165,000	11,000
Illinois	306,000	8,100
Iowa	93,000	1,800
Louisiana	215,000	7,800
Maine	1,400	600
Minnesota	25,000	600
North Carolina	23,000	700
Ohio	18,000	900
Texas	20,000	1,000
Virginia	24,000	500
Wisconsin	44,000	1,000
All other states[2]	63,000	1,700
SPONGES.		
United States	622,000	545,000
Florida	622,000	545,000
SKINS, SEAL.		
United States	3,100	$8,200
Connecticut	1,400	6,000
Maine	1,600	2,200
HIDES, ALLIGATOR.		
United States	372,000	61,000
Florida	254,000	48,000
Louisiana	110,000	11,000
South Carolina	100	(1)
Texas	7,000	1,400
HIDES, PORPOISE.		
United States	48,000	1,000
North Carolina	48,000	1,000
SKINS, MINK.		
United States	22,000	89,000
Illinois	1,900	6,000
Louisiana	20,000	77,000
Minnesota	200	1,100
Missouri	400	3,100
All other states[3]	300	1,700
SKINS, MUSKRAT.		
United States	149,000	136,000
Delaware	22,000	24,000
Illinois	17,000	14,000
Iowa	1,400	800
Louisiana	40,000	16,000
Maryland	38,000	50,000
Michigan	300	400
Minnesota	1,700	1,200
Missouri	9,800	12,000
New Jersey	3,000	2,200
New York	100	(1)
North Carolina	500	800
Ohio	14,000	14,000
Virginia	300	300
Wisconsin	1,000	600
SKINS, OTTER.		
United States	7,600	30,000
Florida	5,700	21,000
Georgia	700	3,600
Louisiana	1,100	4,700
All other states[4]	(4)	300
WHALEBONE.		
United States	63,000	215,000
California	32,000	119,000
Connecticut	1,700	7,200
Massachusetts	30,000	89,000
North Carolina	200	300
LIVERS.		
United States	657,000	7,400
Maine	52,000	500
Massachusetts	605,000	6,900
SOUNDS.		
United States	96,000	4,100
Fresh	93,000	4,000
Salted	2,800	100
Maine	23,000	1,000
Fresh	20,000	900
Salted	2,800	100
Massachusetts	73,000	3,100
OIL, FISH.		
United States	221,000	9,500
Maine	83,000	3,600
Massachusetts	138,000	5,900
OIL, PORPOISE.		
United States	29,000	3,000
Maine	8,000	800
North Carolina	21,000	2,200

[1] Less than $100.
[2] Includes Alabama, Arkansas, Georgia, Kentucky, Maryland, Massachusetts, Mississippi, Missouri, New Jersey, and New York.
[3] Includes Iowa, North Carolina, Ohio, Texas, Virginia, and Wisconsin.
[4] Includes Arkansas, Maryland, Missouri, North Carolina, and Virginia.
[5] Less than 100 pounds.

TABLE 5.—PRODUCTS—DETAIL SUMMARY BY STATES AND BY SPECIES: 1908—Continued.

SPECIES AND STATE.	Quantity (pounds).	Value.
OIL, SEA-ELEPHANT.		
United States	88,000	$3,600
Connecticut	88,000	3,600
OIL, SEAL.		
United States	4,000	400
Maine	4,000	400
OIL, SPERM.		
United States	3,391,000	252,000
California	169,000	12,000
Connecticut	280,000	20,000
Florida	28,000	1,900
Massachusetts	2,913,000	218,000
OIL, WHALE.		
United States	573,000	$30,000
California	13,000	900
Massachusetts	553,000	28,000
North Carolina	7,500	400
IRISH MOSS.		
United States	772,000	26,000
Massachusetts	737,000	25,000
New Hampshire	35,000	1,400
SEA GRASS.		
United States	252,000	1,700
Maryland	252,000	1,700

TABLE 6.—PRODUCTS, BY APPARATUS OF CAPTURE AND BY STATES: 1908.

KIND OF APPARATUS AND STATE.	FISHERY PRODUCTS: 1908. Quantity (pounds).	Value.
FYKE AND HOOP NETS.		
United States	38,050,000	$1,218,000
Alabama	386,000	24,000
Arkansas	2,296,000	53,000
California	1,218,000	62,000
Connecticut	112,000	5,000
Delaware	165,000	7,300
Florida	4,000	300
Georgia	8,600	400
Illinois	11,370,000	330,000
Indiana	284,000	16,000
Iowa	625,000	30,000
Kentucky	1,122,000	47,000
Louisiana	1,758,000	22,000
Maryland	769,000	39,000
Massachusetts	52,000	2,200
Michigan	2,556,000	94,000
Minnesota	51,000	2,800
Mississippi	1,795,000	40,000
Missouri	2,538,000	88,000
New Jersey	449,000	22,000
New York	2,951,000	96,000
North Carolina	231,000	8,600
Ohio	1,714,000	51,000
Oregon	291,000	9,000
Pennsylvania	5,300	300
Rhode Island	241,000	5,800
Tennessee	1,139,000	45,000
Texas	72,000	2,600
Virginia	1,279,000	47,000
Wisconsin	2,449,000	54,000
All other states	229,000	15,000
GILL NETS.		
United States	181,224,000	7,536,000
Alabama	35,000	1,200
California	18,427,000	769,000
Connecticut	180,000	20,000
Delaware	1,075,000	85,000
Florida	29,803,000	1,133,000
Georgia	1,721,000	213,000
Illinois	962,000	51,000
Indiana	285,000	18,000
Louisiana	24,000	900
Maine	1,404,000	56,000
Maryland	3,038,000	174,000
Massachusetts	14,885,000	393,000
Michigan	13,240,000	715,000
Minnesota	2,991,000	50,000
New Jersey	4,515,000	310,000
New York	7,412,000	246,000
North Carolina	7,733,000	376,000
Ohio	9,400,000	336,000
Oregon	22,840,000	1,076,000
Pennsylvania	7,659,000	235,000
Rhode Island	593,000	21,000
South Carolina	566,000	43,000
Texas	151,000	7,000
Virginia	3,489,000	205,000
Washington	16,262,000	468,000
Wisconsin	12,481,000	533,000
All other states	44,000	1,400
POUND NETS, TRAP NETS, AND WEIRS.		
United States	314,031,000	$5,641,000
Arkansas	275,000	7,100
Connecticut	1,629,000	43,000
Delaware	11,000	400
Florida	295,000	18,000
Georgia	277,000	14,000
Illinois	32,000	1,200
Indiana	293,000	18,000
Iowa	321,000	11,000
Louisiana	36,000	800
Maine	69,621,000	357,000
Maryland	27,105,000	321,000
Massachusetts	18,641,000	266,000
Michigan	19,299,000	550,000
Minnesota	1,196,000	44,000
Mississippi	61,000	1,200
Missouri	26,000	1,100
New Jersey	30,285,000	539,000
New York	11,006,000	417,000
North Carolina	14,040,000	391,000
Ohio	9,783,000	308,000
Oregon	353,000	18,000
Pennsylvania	322,000	13,000
Rhode Island	19,406,000	388,000
Tennessee	74,000	2,400
Virginia	52,560,000	833,000
Washington	28,860,000	866,000
Wisconsin	8,080,000	206,000
All other states	129,000	2,200
SEINES.		
United States	573,405,000	5,999,000
Alabama	150,000	4,400
Arkansas	692,000	21,000
California	6,892,000	116,000
Connecticut	29,398,000	116,000
Delaware	64,091,000	219,000
Florida	20,400,000	605,000
Georgia	549,000	38,000
Illinois	15,945,000	460,000
Indiana	70,000	4,200
Iowa	1,877,000	68,000
Kentucky	247,000	12,000
Louisiana	12,496,000	400,000
Maine	27,877,000	171,000
Maryland	17,983,000	128,000
Massachusetts	25,397,000	806,000
Michigan	2,051,000	55,000
Minnesota	1,894,000	53,000
Mississippi	8,118,000	108,000
Missouri	1,915,000	68,000
New Jersey	9,649,000	108,000
New York	18,178,000	327,000
North Carolina	71,009,000	591,000
Ohio	5,781,000	105,000
Oregon	2,987,000	152,000
Pennsylvania	722,000	22,000
Rhode Island	10,648,000	40,000
South Carolina	567,000	16,000
Tennessee	223,000	8,700
Texas	3,655,000	153,000
Virginia	191,633,000	531,000
Washington	14,932,000	333,000
Wisconsin	4,995,000	143,000
All other states	335,000	18,000

TABLE 6.—PRODUCTS, BY APPARATUS OF CAPTURE AND BY STATES: 1908—Continued.

KIND OF APPARATUS AND STATE.	FISHERY PRODUCTS: 1908. Quantity (pounds).	Value.
TRAMMEL NETS.		
United States	15,708,000	$486,000
Alabama	2,271,000	58,000
Arkansas	129,000	3,900
California	1,951,000	52,000
Florida	792,000	27,000
Illinois	5,100,000	151,000
Iowa	1,087,000	46,000
Kentucky	9,500	400
Louisiana	71,000	5,800
Maryland	12,000	1,200
Minnesota	42,000	900
Mississippi	1,839,000	57,000
Missouri	1,052,000	40,000
Ohio	489,000	9,400
Tennessee	275,000	7,600
Texas	79,000	4,000
Wisconsin	261,000	7,200
All other states	249,000	15,000
OTHER NETS (DIP, LIFT, CAST, ETC.).		
United States	23,582,000	553,000
Arkansas	5,000	100
California	5,739,000	121,000
Delaware	160,000	11,000
Florida	754,000	25,000
Georgia	197,000	9,400
Illinois	35,000	1,800
Indiana	12,000	900
Louisiana	404,000	33,000
Maine	2,422,000	35,000
Maryland	2,853,000	63,000
Massachusetts	6,949,000	87,000
Minnesota	3,100	300
Mississippi	102,000	2,700
New Jersey	117,000	10,000
New York	144,000	9,300
North Carolina	920,000	57,000
Ohio	19,000	1,000
Pennsylvania	205,000	12,000
South Carolina	552,000	25,000
Texas	231,000	7,200
Virginia	828,000	29,000
Washington	900,000	12,000
Wisconsin	11,000	600
BEAM TRAWLS.		
United States	3,752,000	90,000
Massachusetts	2,972,000	66,000
New York	268,000	9,400
Rhode Island	496,000	14,000
Washington	15,000	1,100
HARPOONS, SPEARS, ETC.		
United States	7,679,000	762,000
Alabama	14,000	700
Arkansas	20,000	1,600
California	214,000	132,000
Connecticut	533,000	43,000
Delaware	25,000	2,000
Florida	119,000	6,100
Georgia	2,200	100
Illinois	68,000	1,800
Iowa	55,000	1,400
Maine	539,000	48,000
Maryland	5,000	100
Massachusetts	5,262,000	465,000
Michigan	100,000	5,800
Minnesota	46,000	1,600
Mississippi	28,000	1,500
Missouri	22,000	3,600
New Jersey	9,300	800
New York	108,000	8,800
North Carolina	51,000	2,800
Ohio	9,200	9,700
Pennsylvania	6,000	500
Rhode Island	325,000	19,000
South Carolina	3,900	200
Tennessee	64,000	2,600
Texas	31,000	1,700
Wisconsin	25,000	1,000
LINES (HAND, TRAWL, AND SET).		
United States	343,960,000	9,360,000
Alabama	3,553,000	120,000
Arkansas	1,081,000	48,000
California	8,136,000	212,000
Connecticut	1,100,000	41,000
Delaware	206,000	6,100
Florida	12,747,000	617,000
Georgia	1,810,000	74,000
Illinois	1,242,000	56,000
Indiana	132,000	11,000
Iowa	200,000	12,000
LINES (HAND, TRAWL, AND SET)—continued.		
Kentucky	598,000	$30,000
Louisiana	5,329,000	205,000
Maine	55,287,000	953,000
Maryland	11,491,000	124,000
Massachusetts	161,888,000	3,930,000
Michigan	855,000	52,000
Minnesota	426,000	22,000
Mississippi	1,022,000	40,000
Missouri	970,000	46,000
New Jersey	8,382,000	332,000
New York	7,752,000	442,000
North Carolina	574,000	21,000
Ohio	118,000	7,700
Oregon	54,000	2,200
Pennsylvania	970,000	49,000
Rhode Island	1,828,000	55,000
South Carolina	1,388,000	59,000
Tennessee	540,000	32,000
Texas	2,712,000	101,000
Virginia	15,106,000	196,000
Washington	35,013,000	1,368,000
Wisconsin	1,133,000	92,000
All other states	314,000	13,000
POTS AND TRAPS.		
United States	23,979,000	2,589,000
Alabama	107,000	6,100
California	2,270,000	137,000
Connecticut	712,000	89,000
Delaware	196,000	37,000
Florida	522,000	47,000
Georgia	5,700	4,100
Illinois	32,000	21,000
Iowa	1,500	1,200
Louisiana	142,000	100,000
Maine	10,371,000	1,291,000
Maryland	219,000	60,000
Massachusetts	2,830,000	325,000
Michigan	300	400
Minnesota	5,700	2,800
Mississippi	138,000	11,000
Missouri	10,000	15,000
New Jersey	302,000	34,000
New York	915,000	95,000
North Carolina	244,000	6,500
Ohio	4,500	4,500
Oregon	359,000	20,000
Pennsylvania	61,000	5,400
Rhode Island	1,670,000	163,000
Tennessee	1,700	200
Virginia	48,000	2,500
Washington	2,179,000	51,000
Wisconsin	349,000	15,000
All other states	284,000	44,000
WHEELS AND SLIDES.		
United States	1,958,000	100,000
North Carolina	123,000	1,900
Oregon	1,355,000	72,000
Washington	481,000	26,000
DREDGES, TONGS, RAKES, ETC.		
United States	356,990,000	18,772,000
Alabama	4,132,000	173,000
Arkansas	8,060,000	70,000
California	729,000	337,000
Connecticut	33,189,000	2,614,000
Delaware	2,441,000	170,000
Florida	7,586,000	394,000
Georgia	10,257,000	348,000
Illinois	39,809,000	355,000
Indiana	14,431,000	155,000
Iowa	4,699,000	44,000
Kentucky	3,413,000	20,000
Louisiana	25,553,000	763,000
Maine	6,310,000	347,000
Maryland	50,250,000	2,393,000
Massachusetts	5,363,000	741,000
Michigan	290,000	800
Minnesota	743,000	8,300
Mississippi	7,473,000	295,000
Missouri	170,000	1,000
New Jersey	21,049,000	1,703,000
New York	27,749,000	2,954,000
North Carolina	5,907,000	307,000
Ohio	1,597,000	7,000
Oregon	58,000	7,200
Pennsylvania	1,938,000	176,000
Rhode Island	8,767,000	1,008,000
South Carolina	11,014,000	143,000
Tennessee	2,170,000	14,000
Texas	3,468,000	167,000
Virginia	45,954,000	2,781,000
Washington	1,425,000	352,000
Wisconsin	1,130,000	12,000
All other states	35,000	1,400

TABLE 6.—PRODUCTS, BY APPARATUS OF CAPTURE AND BY STATES: 1908—Continued.

KIND OF APPARATUS AND STATE.	FISHERY PRODUCTS: 1908.		KIND OF APPARATUS AND STATE.	FISHERY PRODUCTS: 1908.	
	Quantity (pounds).	Value.		Quantity (pounds).	Value.
MINOR APPARATUS.			MINOR APPARATUS—continued.		
United States	9,138,000	$925,000	Minnesota	86,000	$7,000
			Missouri	47,000	7,500
Alabama	17,000	600	New Jersey	70,000	9,900
Arkansas	19,000	2,900	New York	400	100
California	1,902,000	33,000	North Carolina	530,000	14,000
Connecticut	89,000	9,600	Ohio	3,400	600
Delaware	2,400,000	3,600	Rhode Island	280,000	39,000
Florida	1,145,000	605,000	South Carolina	14,000	2,300
Illinois	25,000	6,800	Texas	20,000	2,100
Louisiana	292,000	30,000	Virginia	1,617,000	97,000
Maine	11,000	400	Washington	389,000	34,000
Maryland	74,000	2,700	Wisconsin	31,600	2,300
Massachusetts	75,000	14,000			

CHAPTER VI.

PRODUCTS OF THE PRINCIPAL FISHERIES IN DETAIL.

Nearly seven-eighths of the value of fishery products of the United States in 1908 was represented by 30 kinds of products. Detailed statistics for these classes, and also for a few of the minor products of general interest, are presented in this chapter. The products here considered are the following:

Alewives.	Herring.	Salmon.
Bluefish.	Lake herring.	Shad.
Buffalo fish.	Lake trout.	Shrimp and prawn.
Carp.	Lobster.	Skins.
Catfishes.	Lobster, spiny.	Snappers.
Clams.	Mackerel.	Sponges.
Cod.	Menhaden.	Squeteague.
Crabs.	Mullets.	Sturgeons.
Flounders.	Mussels.	Whale products.
Haddock.	Oysters.	Whitefish.
Hake.	Pike perches.	
Halibut.	Pollack.	

Alewives (*Pomolobus pseudoharengus and P. æstivalis*).—These two species of fish are generally known indiscriminately as alewives, and are found in waters adjacent to the Atlantic Ocean. *P. pseudoharengus* is never found south of the Neuse River, in North Carolina. It is known along the Potomac as "branch herring," on Albemarle Sound as the "big-eyed herring" and the "wall-eyed herring," in New England as "alewife," and on the Connecticut River as "ellwife" and "ellwhop." It appears in the rivers three or four weeks earlier than the "glut herring" and the shad. *P. æstivalis* is found from the Carolinas to the coast of Maine. It is known in Chesapeake Bay and Albemarle Sound as "glut herring," in the Ogeechee River as "English herring," in the St. Johns River as "herring," and in Massachusetts and during the later runs in the Rappahannock as the "blueback." It is also known as "blackbelly," "sawbelly," and "kyack." This species is less abundant and much less valuable as a food fish than *P. pseudoharengus*. Both species average about a half pound in weight and from 8 to 10 inches in length. They are caught in nets, seines, weirs, etc., and besides being of great importance as food fish, are also used for bait. The name "alewife" is applied to the menhaden in Delaware, Maryland, and Virginia.

The value of the alewife catch in 1908 was $589,000, and constituted 1 per cent of the total value of the fishery products of the United States. Over three-fourths of this amount represented the value of fish disposed of fresh and 22 per cent the value of those which were salted, while the remainder was the value of a few which were smoked. Although alewives were taken in every state on the Atlantic coast except South Carolina, three states—Virginia, Maryland, and North Carolina—reported 80 per cent of the value and 86 per cent of the weight of the total alewife catch. The following tabular statement gives the statistics of the catch, by states:

STATE.	ALEWIFE PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	89,978,000	100	$589,000	100
Virginia	37,885,000	42	171,000	29
Maryland	28,805,000	32	157,000	27
North Carolina	10,928,000	12	140,000	24
All other states	12,361,000	14	121,000	21

In the following tabular statement are given comparative statistics of the catch of alewives for a series of years. Between 1892 and 1908 no figures for the entire product in any one year are available, but the returns for the New England states in 1898 have been combined with those for the Middle Atlantic and the South Atlantic states in 1897, while the results from the canvass of the New England states for 1905, the Middle Atlantic states for 1904, and the South Atlantic states for 1902, have been similarly combined. This course has been followed in presenting the figures for other classes of products when returns are not available for the catch of all districts in any one year.

YEAR.	ALEWIFE PRODUCT.	
	Quantity (pounds).	Value.
1908	89,978,000	$589,000
1902–1905	62,062,000	474,000
1897–98	29,027,000	435,000
1892	59,176,000	555,000
1888	56,158,000	501,000
1880	45,684,000	527,000

A considerable increase is apparent in the quantity of the product in 1908, as compared with that of previous years. At the same time there has been an increase in value, although this has not been commensurate with the increase in quantity.

The catch taken by the principal kinds of apparatus of capture was as follows:

KIND OF APPARATUS.	ALEWIFE PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	89,978,000	100	$589,000	100
Pound nets, trap nets, and weirs	66,369,000	74	372,000	63
Seines	18,928,000	21	166,000	28
Gill nets	2,211,000	2	20,000	3
All other	2,469,000	3	31,000	5

Of the total alewife catch, 74 per cent, or nearly three-fourths, representing 63 per cent, or a little less than two-thirds of the total value, was taken by pound nets, trap nets, and weirs, and 21 per cent, representing 28 per cent of the total value, by seines. Thus 95 per cent of the catch, representing 91 per cent of the value, was taken by these two classes of apparatus.

Bluefish (*Pomatomus saltatrix*).—This fish is found on the Atlantic and the Gulf coasts. On the coast of the New England and Middle states it is generally called "bluefish;" in Rhode Island, "horse mackerel;" south of Cape Hatteras, "skip jack;" in North Carolina, Virginia, and Maryland, "tailor" and "greenfish;" and on the Gulf of Mexico, "bluefish." Young bluefish are called "snapping mackerel," "snappers," and "salt-water tailors" in Virginia and Maryland; "blue snappers" about New Bedford; and "skip mackerel" about New York. The bluefish varies in weight from 1 to 20 pounds, according to the season and locality, and large numbers are caught during the summer months with nets, traps, seines, and hand lines.

The name "bluefish" is also improperly applied to the squeteague from southern New Jersey to Virginia, to the black sea bass at Newport and New Bedford, to the "greenfish" on the California coast south of Monterey, and to the "bonito" in the markets.

The value of the bluefish catch in 1908 was $506,000, or slightly less than 1 per cent of the value of all fishery products. This fish was taken in every coast state from Rhode Island to Texas, but only a small quantity was taken in the Gulf of Mexico. Of the total value of the catch, over one-half was reported by the fisheries of New York. Except for insignificant amounts salted in Florida and North Carolina, the catch was sold fresh. The following tabular statement gives the statistics of the bluefish catch for the leading states reporting this species:

STATE.	BLUEFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	7,647,000	100	$506,000	100
New York	3,191,000	42	291,000	58
New Jersey	1,850,000	24	99,000	20
North Carolina	1,256,000	16	45,000	9
Florida	952,000	12	45,000	9
Virginia	242,000	3	14,000	3
All other states	155,000	2	12,000	2

Statistics of the product of the bluefish fisheries for previous years for which data are available are given in the following statement. The figures for the periods 1890–1892, 1897–98, and 1902–1904 were obtained in the manner explained on page 47.

YEAR.	BLUEFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	7,647,000	$506,000
1902–1905	16,576,000	782,000
1897–98	22,461,000	730,000
1889–1892	18,479,000	735,000
1888	13,490,000	669,000

The quantity and value of the catch of 1908 were the smallest on record. The distribution of the bluefish catch by apparatus of capture was as follows:

KIND OF APPARATUS.	BLUEFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	7,647,000	100	$506,000	100
Lines	3,781,000	49	307,000	61
Gill nets	2,029,000	27	109,000	22
Seines	1,221,000	16	54,000	11
Pound and trap nets	534,000	7	33,000	7
Trammel nets	61,000	1	2,700	1
Fyke and hoop nets	21,000		1,100	

Buffalo fish.—Under this general name are included three species, red or big-mouthed buffalo (*Ictiobus cyprinella*), black or mongrel buffalo (*I. urus*), and small-mouthed or white buffalo (*I. bubalus*). These fresh-water suckers, to which the name "buffalo carp" is sometimes erroneously applied, are found in the waters of the Mississippi Valley. They frequently weigh from 30 to 40 pounds and are caught with nets and hand lines. The value of the catch in 1908 was $498,000, or less than 1 per cent of the total value of fishery products for the United States. In the fisheries of the Mississippi River and its tributaries, however, this fish ranked second in importance, contributing 15 per cent of the total value of the fishery products of that district. Ninety-one per cent of the total value of the buffalo-fish product represented that caught in the Mississippi River and its tributaries. The following tabular statement shows the catch, by geographic divisions:

DIVISION.	BUFFALO-FISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	16,729,000	100	$498,000	100
Mississippi River division	15,040,000	90	455,000	91
Gulf of Mexico division	1,683,000	10	43,000	9
Great Lakes division	6,200	(1)	200	(1)

1 Less than 1 per cent.

Nineteen states reported a catch of buffalo fish. Statistics concerning the product of the leading states are given in the following tabular statement:

STATE.	BUFFALO-FISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	16,729,000	100	$498,000	100
Illinois	3,042,000	18	117,000	23
Wisconsin	3,178,000	19	103,000	21
Louisiana	2,626,000	16	50,000	10
Arkansas	2,051,000	12	43,000	9
Mississippi	1,664,000	10	34,000	7
Missouri	993,000	6	30,000	6
All other states	3,175,000	19	121,000	24

The yield in 1908 was the most valuable on record, and, although smaller in quantity than those of some earlier years, it was larger than in 1903, a fact which indicates a recovery from the downward movement of the previous decade. Since the Mississippi River product represented 91 per cent of the total value in 1908 and has always contributed at least this proportion, the catch of buffalo fish from that division affords a good basis of comparison between 1908 and previous years. The statistics concerning the catch of buffalo fish from the Mississippi River and its tributaries in 1894, 1899, 1903, and 1908 are therefore given in the following tabular statement:

YEAR.	BUFFALO-FISH PRODUCT OF THE MISSISSIPPI RIVER DIVISION.	
	Quantity (pounds).	Value.
1908	15,040,000	$455,000
1903	11,492,000	312,000
1899	14,216,000	350,000
1894	17,584,000	419,000

During the entire period for which statistics are available the average price has been slowly but steadily increasing.

The following tabular statement gives the quantity and value of buffalo fish taken by the different kinds of apparatus:

KIND OF APPARATUS.	BUFFALO-FISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	16,729,000	100	$498,000	100
Seines	7,138,000	43	218,000	44
Fyke and hoop nets	6,502,000	39	179,000	36
Trammel nets	1,260,000	8	41,000	8
Pound and trap nets	828,000	5	29,000	6
Lines	812,000	5	23,000	5
All other	189,000	1	7,400	1

Carp (*Cyprinus carpio*).—This fish, known as "German carp," is a fresh-water food fish of great interest to fish-culturists, and is found in ponds and streams in nearly every state of the union. As a result of domestication several varieties have arisen, of which the principal ones are the "scale carp," heavily scaled; the "mirror carp," with a few series of very large scales; and the "leather carp," which is scaleless. The size of the carp varies with the temperature and clearness of the water, the kind of bottom, the abundance and nature of the food supply, and in general with the conditions under which it lives. These fish live to a great age, and sometimes attain a weight of more than 40 pounds. The carp naturally thrives best in lakes, ponds, and sluggish streams, seeking quiet or stagnant waters. It spawns about June. It feeds largely on vegetable matter, insects and their larvæ, found on aquatic vegetation, forming its principal animal food. It will, however, eat practically anything it can get into its mouth, rooting about in the mud much in the same way as a pig; and it also, at times, feeds while swimming near the surface, eating insects and their larvæ and other floating substances. The carp is said to eat neither fish nor their spawn, but, on the other hand, young carp are preyed upon by bass and other predaceous fishes.

Certain species of carp, familiarly known as minnows, chubs, shiners, and dace, also are found in the fresh waters of the United States, but the German carp (*Cyprinus carpio*) is not indigenous to this country. Originally a native of Central Asia, the carp was gradually introduced into Europe, and early in the thirteenth century was brought into Germany, where it became a favorite food fish. It was not introduced into the United States with a view to propagation until 1877, when Mr. Hassel, of the United States Fish Commission, brought over a number of carp from Germany for the purpose of experimentation. Prior to that time private individuals had brought specimens into the United States from Germany, without attracting any general attention.

In the fall of 1879 a systematic distribution of young carp was begun, which was continued up to 1896. During that time nearly every state in the Union tried to cultivate this fish, and the attempt met with success in many states. The purpose of the Fish Commission, more especially, was to distribute this fish, which was believed to be a good food fish and which was hardy, easily and cheaply raised, and of great fecundity, in sections where conditions were not conducive to the growth of fish, the expectation being that natural ponds not suitable for other fish would be used or that artificial ponds would be constructed for its propagation. Although originally introduced therefore into private or restricted streams and waters, it was not long before the public waters began to be stocked—in some cases accidentally, by the overflowing of a carp pond or stream, and in other cases through the intentional introduction of the species, as in certain rivers in Illinois and Ohio.

The German carp product in 1908 amounted to 42,763,000 pounds, valued at $1,135,000, and constituted 2 per cent of the total quantity and of the total value of all fishery products. Of 38 states having fisheries of a commercial nature in 1908, 31 reported German carp. The following tabular statement gives the statistics of the carp product, by states ranked according to the value of the product, together with the per cent distribution of both the quantity and the value of the catch:

STATE.	GERMAN-CARP PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	42,763,000	100	$1,135,000	100
Illinois	21,642,000	51	574,000	51
Ohio	7,158,000	17	129,000	11
Missouri	2,432,000	6	80,000	7
Iowa	2,048,000	5	62,000	5
Michigan	2,459,000	6	55,000	5
Wisconsin	2,247,000	5	52,000	5
New York	406,000	1	31,000	3
Minnesota	1,132,000	3	26,000	2
Kansas	304,000	1	19,000	2
Kentucky	449,000	1	18,000	2
New Jersey	220,000	1	16,000	1
Nebraska	254,000	1	12,000	1
Tennessee	237,000	1	8,200	1
Virginia	286,000	1	8,000	1
Maryland	167,000	(1)	7,100	1
North Carolina	228,000	1	7,000	1
Delaware	133,000	(1)	6,700	1
Indiana	128,000	(1)	6,000	1
California	427,000	1	4,300	(1)
Arkansas	175,000	(1)	4,100	(1)
Pennsylvania	71,000	(1)	2,200	(1)
Alabama	22,000	(1)	1,500	(1)
Georgia	38,000	(1)	1,200	(1)
All other states [2]	100,000	(1)	3,600	(1)

[1] Less than 1 per cent.
[2] Includes Connecticut, Florida, Louisiana, Mississippi, Oregon, South Dakota, Texas, and West Virginia.

The carp product of Illinois, most of which was from the Illinois River, exceeded that of all other states combined. Ohio ranked second, with a product of 7,158,000 pounds, while Michigan, Missouri, Wisconsin, Iowa, and Minnesota each reported over 1,000,000 pounds. The total German-carp product of these seven states amounted to nearly 20,000 tons, valued at $979,000, and represented 91 per cent of the quantity and 86 per cent of the value of the German-carp product of the United States.

The distribution of the German-carp product in 1908, by groups of states, was as follows:

STATE GROUP.	GERMAN-CARP PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	42,763,000	100	$1,135,000	100
North Central states	39,818,000	93	1,017,000	90
North Atlantic states	704,000	2	50,000	4
South Central states	924,000	2	33,000	3
South Atlantic states	861,000	2	30,000	3
Western states	457,000	1	4,600	(1)

[1] Less than 1 per cent.

As early as 1883 carp were taken in the waters of the Mississippi River and its tributaries and in the Great Lakes, but they were not handled by the fish dealers until some years later and had no extensive market until about 1895. In the report of the United States Fish Commission on the Great Lakes fisheries for 1892, carp is not mentioned as a distinct species and, if caught and sold commercially at this time, was probably included under "Other fish." For 1893–94, however, the Bureau of Fisheries reported a considerable amount of this fish, and succeeding reports show a steadily increasing product, as the following comparative summary indicates:

YEAR.	GERMAN-CARP PRODUCT.	
	Quantity (pounds).	Value.
1908	42,763,000	$1,135,000
1903	16,508,000	350,000
1899	15,543,000	342,000
1893–94	2,108,000	55,000

Although this product is caught to some extent throughout the year, the largest part of the fishing is done in the spring and summer. A variety of apparatus is used in taking carp, but the bulk of the catch is made with seines, fyke and hoop nets, and trammel nets. The statistics of the catch by the various forms of apparatus are given in the following tabular statement:

KIND OF APPARATUS.	GERMAN-CARP PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	42,763,000	100	$1,135,000	100
Seines	24,162,000	57	611,000	54
Fyke and hoop nets	10,067,000	24	286,000	25
Trammel nets	5,154,000	12	141,000	12
Lines	1,062,000	2	35,000	3
Pound nets, trap nets, and weirs	1,224,000	3	28,000	2
Gill nets	894,000	2	25,000	2
All other	199,000	(1)	8,500	1

[1] Less than 1 per cent.

Catfishes (*Siluridæ*).—The American species include the sea catfishes of the Atlantic coast, the channel cats of all the rivers east of the Rocky Mountains, the horned pout, which is widely distributed through the brooks and ponds of the states, and the diminutive mad-toms. The different varieties are distinguished by the common names of "channel cat," "blue cat," "Mississippi cat," "mud cat," "flannel-mouth," "horned pout," "bullhead," "minister," "goujon," "bashaw," "gaff-topsail," etc. They vary in length from 1 to 5 feet and in weight from 2 to 150 pounds, are caught by means of nets, traps, hand lines, and by jugging, and are used extensively for food.

The value of the catch in 1908 was $785,000, or more than 1 per cent of the total value of the fishery products. Catfish are taken in all waters of the United States, but in 1908 nearly one-half of the total product came from the Mississippi River and its tributaries. In these waters catfish ranked third in value among fishery products, contributing 13 per cent of their total value. Of the 38 states included in the canvass of 1908, all, with the exception of four of the New England states, reported this fish. The catches reported from Louisiana and Illinois greatly exceeded those from any of the other states, in both quantity and value, but the product was otherwise distributed with unusual equality. The weight and value of the catfish taken in the leading states and the per cent distribution of the value are given in the following tabular statement:

STATE.	CATFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	17,817,000	100	$785,000	100
Louisiana	4,405,000	25	143,000	18
Illinois	2,044,000	11	96,000	12
California	1,069,000	6	56,000	7
Florida	1,481,000	8	54,000	7
Missouri	1,166,000	7	51,000	6
Iowa	418,000	2	33,000	4
Arkansas	895,000	5	33,000	4
Virginia	738,000	4	31,000	4
All other states [1]	5,602,000	31	288,000	37

[1] Includes 26 states.

With the exception of the period 1889–1894, the product in 1908 was larger than that of any other year for which statistics are available, as shown by the following comparative statement giving the quantity and value for 1908 and previous canvasses:

DIVISION.	CATFISH PRODUCT.							
	1908		1902–1905		1897–1899		1889–1894	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	17,817,000	$785,000	12,120,000	$501,000	14,953,000	$554,000	22,673,000	$767,000
Mississippi River division	8,073,000	395,000	5,192,000	277,000	7,648,000	340,000	14,727,000	533,000
Gulf of Mexico division	3,984,000	143,000	2,415,000	73,000	2,449,000	58,000	2,850,000	60,000
Atlantic coast division	3,528,000	132,000	2,838,000	95,000	2,047,000	71,000	3,166,000	113,000
Pacific coast division	1,270,000	65,000	923,000	27,000	636,000	16,000	(1)	(1)
Great Lakes division	963,000	50,000	752,000	28,000	2,183,000	69,000	1,930,000	61,000

[1] None reported.

The value of the product of the Mississippi River and its tributaries constituted more than 50 per cent of the value of the total catch of this fish in 1908, and the product of the Gulf of Mexico ranked next, with a value equal to 18 per cent of the total. The Atlantic coast and the Pacific coast divisions contributed, respectively, 17 per cent and 8 per cent of the total value, while the catch of the Great Lakes division represented only 6 per cent.

The following tabular statement presents the statistics of the catch, by the leading apparatus of capture:

KIND OF APPARATUS.	CATFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	17,817,000	100	$785,000	100
Lines	7,012,000	39	290,000	37
Fyke and hoop nets	4,445,000	25	219,000	28
Seines	3,795,000	21	151,000	19
Pound and trap nets	1,505,000	8	69,000	9
Trammel nets	653,000	4	32,000	4
Pots and traps	163,000	1	12,000	2
Gill nets	215,000	1	11,000	1
All other	30,000	(1)	1,100	(1)

[1] Less than 1 per cent.

Clams.—This term includes the hard clam, quahaug, or round clam (*Venus mercenaria*); soft or long clam (*Mya arenaria*); razor clam, or razor fish (*Ensis americana*); surf, sea, or hen clam (*Spisula solidissima*); and various other species.

Clams are bivalve mollusks largely used for food and bait, and are found on all our coasts. Various species, most of which are edible, are known as "soft clam," "long clam," "butterfish," "mananose," "nanninose," "squirt clam," "quahaug," "hard clam," "surf clam," "sea clam," "hen clam," "beach clam," "dipper," "skimmer," "painted clam," "cuneata clam," "round clam," "little-neck clam," "gapers," "tellens," "flat clam," "razor clam," "razor fish," "knife-handle," and "bullnose." For the purposes of the census, however, all species are classified as either hard, soft, razor, or surf clams.

The clam product of the United States in 1908 ranked sixth in value, amounting to 1,900,000 bushels, valued at $1,917,000. While the quantity of the hard-shell variety but little exceeded that of the soft-shell, the value of the former was nearly two and one-half times that of the latter. The statistics of the clam product reported, by class of product, are given in the following tabular statement:

STATE.	CLAM PRODUCT: 1908.			
	Quantity.		Value.	
	Bushels.	Per cent distribution.	Amount.	Per cent distribution.
United States	1,900,000	100	$1,917,000	100
Hard clams	976,000	51	1,317,000	69
Soft clams	865,000	46	553,000	29
Razor clams	26,000	1	25,000	1
Surf clams	33,000	2	21,000	1
Virginia	246,000	13	380,000	20
Massachusetts	334,000	18	378,000	20
New Jersey	306,000	16	336,000	18
New York	188,000	10	292,000	15
Maine	506,000	27	251,000	13
North Carolina	91,000	5	82,000	4
Rhode Island	48,000	3	77,000	4
Connecticut	17,000	1	26,000	1
Maryland	10,000	1	16,000	1
Florida	30,000	2	15,000	1
Pacific coast states	109,000	6	46,000	2
All other states[1]	16,000	1	17,000	1

[1] Includes Delaware, Georgia, Louisiana, and South Carolina.

Hard clams were reported from all the Pacific coast states, from Florida and Louisiana on the Gulf of Mexico, and from all the Atlantic coast states except Maine and New Hampshire. The entire soft-clam product, with the exception of 1 per cent of the total, taken in California and Oregon, was from the North Atlantic coast, none being reported south of New Jersey.

STATE.	CLAM PRODUCT: 1908.									
	Total.		Hard clams.		Soft clams.		Razor clams.		Surf clams.	
	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.
United States	1,900,000	$1,917,000	976,000	$1,317,000	865,000	$553,000	26,000	$25,000	33,000	$21,000
Virginia	246,000	380,000	246,000	380,000						
Massachusetts	334,000	378,000	140,000	189,000	192,000	186,000	2,400	3,600		
New Jersey	306,000	336,000	273,000	318,000	20,000	11,000			12,000	7,000
New York	188,000	292,000	101,000	223,000	66,000	54,000			21,000	14,000
Maine	506,000	251,000			506,000	251,000				
North Carolina	91,000	82,000	91,000	82,000						
Rhode Island	48,000	77,000	20,000	39,000	28,000	38,000				
Connecticut	17,000	26,000	13,000	20,000	4,200	5,500				
Maryland	10,000	16,000	10,000	16,000						
Florida	30,000	15,000	30,000	15,000						
Pacific coast states	109,000	46,000	36,000	17,000	50,000	7,300	23,000	22,000		
All other states[1]	16,000	17,000	16,000	17,000						

[1] Includes Delaware, Georgia, Louisiana, and South Carolina.

Razor clams were reported from Washington and Massachusetts, and surf clams from New York and New Jersey. The statistics of the clam product, by states and varieties, are given in the above tabular statement, in which the states are ranked according to the value of their catch.

It is not possible to compare the statistics for the different varieties with those for previous years, owing to the fact that at the earlier canvasses in many instances no distinction of varieties was made. A comparison of the figures for the total clam product, however, shows a slight decrease in quantity since 1880, accompanied by an increase in value. The statistics for the various canvasses are as follows:

YEAR.	CLAM PRODUCT.	
	Quantity (bushels).	Value.
1908	1,900,000	$1,917,000
1902–1904	2,126,000	1,820,000
1888–1890	2,268,000	1,730,000
1880	2,184,000	1,228,000

The entire clam product was taken with tongs, dredges, and similar apparatus.

Cod (*Gadus callarias*).—The cod is caught most extensively along the coast of the Middle states, New England, and British America, and is not taken in the Atlantic Ocean south of New Jersey. It is most plentiful on the Grand Banks and off the coasts of Newfoundland and New England. The weight varies from 3 to 75 pounds. The Alaska cod (*G. macrocephalus*) is found in the Pacific Ocean from Bering Sea to Oregon.

Of the fishery products of the United States in 1908, cod ranked third in value, the total product amounting to 109,453,000 pounds, valued at $2,903,000. The Atlantic coast states furnished 93 per cent of this amount and the Pacific coast states the remaining 7 per cent.

In the statement at top of next column is presented the per cent distribution by states of the quantity and the value of the cod product in 1908.

On account of the length of the trips made by vessels in the Pacific coast fisheries, often extending over a period of several months, the fish taken are salted on the vessels. In 1908 the Pacific coast catch was 7,946,000 pounds, valued at $218,000. Massachusetts and Maine furnished the entire amount of salted cod from the Atlantic coast. The amount salted in these two states is decreasing from year to year, while the amount marketed in a fresh condition is increasing. The total amount of salted cod was 30,245,000 pounds, valued at $950,000, or 27 per cent of the total quantity and 33 per cent of the total value of the United States cod product.

DIVISION, STATE, AND CONDITION OF PRODUCT.	PER CENT DISTRIBUTION OF COD PRODUCT: 1908.	
	Quantity (pounds).	Value.
United States	100	100
Atlantic coast division	93	93
Massachusetts	66	67
Fresh	48	45
Salted	18	22
Maine	18	15
Fresh	16	12
Salted	2	3
New Jersey	3	4
New York	3	3
Rhode Island	1	1
Connecticut	1	1
New Hampshire	(1)	(1)
Pennsylvania	(1)	(1)
Delaware	(1)	(1)
Pacific coast division [2]	7	8
Washington	4	4
California	3	5

[1] Less than 1 per cent. [2] All the cod product of this division was salted.

Fresh cod from the Atlantic coast fisheries represented 72 per cent of the total quantity and 67 per cent of the total value of the catch. Massachusetts and Maine together furnished over four-fifths of the total cod product.

The comparative statistics of the cod product for 1888, 1902–1904, and 1908 are given in the following tabular statement:

CONDITION OF PRODUCT AND DIVISION.	COD PRODUCT.											
	1908				1902–1904				1888			
	Quantity.		Value.		Quantity.		Value.		Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.	Pounds.	Per cent distribution.	Amount.	Per cent distribution.	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	110,054,000	100	$2,914,000	100	98,383,000	100	$2,490,000	100	119,545,000	100	$3,109,000	100
Fresh [1]	79,808,000	73	1,964,000	67	55,338,000	56	1,333,000	54	38,517,000	32	884,000	28
Salted	30,245,000	27	950,000	33	43,045,000	44	1,157,000	46	81,028,000	68	2,225,000	72
Atlantic coast	22,299,000	20	732,000	25	35,350,000	36	963,000	39	80,788,000	68	2,214,000	71
Pacific coast	7,946,000	7	218,000	8	7,695,000	8	194,000	8	239,000	(2)	11,000	(2)

[1] All from the Atlantic coast. [2] Less than 1 per cent.

A comparison of the totals for 1908 with those for 1902–1904 shows that there has been an increase, but that the yield reported at the last canvass was not equal to that of 1888. There was a heavy increase in the amount brought into market fresh and a corresponding decrease in the amount salted. The figures for Washington show an increase since the last canvass and those for California a decrease, while the result was an increase for the Pacific coast division as a whole. The cod taken by the Connecticut and Delaware fisheries formed but a small fraction of the total, but the value of the catch in the former state in 1908 was nearly four times as great as that in 1902, and in the latter the quantity caught was nearly nine times as great as in 1904. New Jersey, New York, and Rhode Island more than doubled their catch. New Hampshire and Maryland were the only states on the Atlantic coast showing a decrease. The distribution of the cod taken in 1888, 1902–1904, and 1908 is given in the next tabular statement:

As the cod habitually feeds on the bottom, practically the entire catch was taken with trawls and hand lines, though a few were taken in pound nets, gill nets, and other trawls.

DIVISION, STATE, AND CONDITION OF PRODUCT.	COD PRODUCT.					
	1908		1902-1904		1888	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	110,054,000	$2,914,000	98,383,000	$2,490,000	119,545,000	$3,109,000
Atlantic coast division	102,108,000	2,696,000	90,688,000	2,296,000	119,305,000	3,099,000
Massachusetts	72,819,000	1,955,000	69,521,000	1,773,000	87,797,000	2,278,000
Fresh	53,148,000	1,311,000	40,659,000	976,000	23,427,000	516,000
Salted	19,671,000	644,000	28,862,000	797,000	64,370,000	1,762,000
Maine	20,013,000	439,000	17,390,000	377,000	23,833,000	597,000
Fresh	17,385,000	351,000	10,903,000	210,000	7,414,000	145,000
Salted	2,628,000	88,000	6,488,000	167,000	16,419,000	452,000
New Jersey	3,767,000	130,000	1,262,000	54,000	727,000	15,000
New York	2,999,000	99,000	1,170,000	53,000	3,195,000	104,000
Rhode Island	1,497,000	42,000	690,000	21,000	306,000	9,700
Connecticut	820,000	27,000	211,000	7,100	2,001,000	65,000
New Hampshire	135,000	3,900	442,000	12,000	1,426,000	29,000
Pennsylvania	50,000	800			21,000	400
Delaware	7,000	400	800	(1)		
Maryland			300	(1)		
Pacific coast division [2]	7,946,000	218,000	7,695,000	194,000	239,000	11,000
Washington	4,648,000	124,000	2,072,000	62,000	239,000	11,000
California	3,298,000	94,000	5,623,000	132,000		

[1] Less than $100.

[2] All the cod product of this division was salted.

Crabs.—Crabs are decapod crustaceans, found along all the coasts of the United States. The different species vary much in size, habit, and use, and are distinguished by the adjectives "blue," "fiddler," "green," "hermit," "jonah," "kelp," "lady," "mud," "oyster," "red," "rock," "sand," "sea," "soldier," "spider," "stone," etc. The common edible crab has names applied by the catchers, describing the different conditions of the shell. While shedding they are known as "comer," "buster," "peeler," and "shedder;" while growing a new shell, as "soft-shell," "paper-shell," and "buckler."

Crabs are used for food, bait, and fertilizer. King crabs are sold for the latter purpose and the product is known as "cancerine."

Although for the purposes of this report crabs are divided into only five classes, a number of varieties were taken, most of which are included under "hard crabs" or "soft crabs." The most important species included under these heads are the blue crab of the Atlantic coast and the Pacific coast crabs. The terms "hard" and "soft" are applied to crabs to designate the condition of the shell rather than to differentiate species. The common blue crab of the Atlantic coast sheds its shell several times annually, and since commercially only two stages are recognized, it may be classed as either "hard" or "soft." No soft crabs were reported from the Pacific coast. In addition to the hard and soft varieties, those shown separately here are the "king crab," "spider crab," and "stone crab."

The crab product in 1908, comprising hard, soft, king, spider, and stone crabs, aggregated 60,626,000 pounds, and had a value of $938,000. The following tabular statement shows the distribution of the quantity and the value of the hard and soft crab product, as reported for 1908, for groups of states:

STATE GROUP.	HARD AND SOFT CRAB PRODUCT: 1908.							
	Total.				Hard crabs.		Soft crabs.	
	Quantity.		Value.					
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	52,913,000	100	$912,000	100	42,612,000	$553,000	10,301,000	$359,000
Middle Atlantic states	46,602,000	88	679,000	74	36,705,000	380,000	9,897,000	298,000
Pacific coast states	4,081,000	8	127,000	14	4,081,000	127,000		
Gulf of Mexico states	1,197,000	2	55,000	6	1,071,000	29,000	126,000	27,000
South Atlantic states	765,000	1	46,000	5	488,000	12,000	277,000	33,000
New England states	268,000	1	5,400	1	266,000	5,300	1,800	200

The statistics of the crab product for 1908, by states and varieties, are given in the next table.

The Virginia fisheries supplied more than one-half of the total quantity of hard crabs and the Maryland fisheries considerably more than one-fourth. In the soft-crab output Virginia and Maryland again took the lead, but the order is reversed, Maryland reporting three-fourths of the total weight and Virginia one-fifth. No soft crabs whatever were reported from the Pacific coast states. The combined weight of hard and soft crabs was 52,913,000 pounds and the combined value $912,000. When the two varieties are thus considered together, the products of Virginia and Maryland are very nearly equal in value, that of the Virginia product being $326,000 and that of the Maryland product $319,000. These two states together contributed 71 per cent and the Middle Atlantic states, as a group, 74 per cent of the total value of the hard and soft crab product.

STATE.	CRAB PRODUCT: 1908.							
	Total.				Hard crabs.		Soft crabs.	
	Quantity.		Value.					
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	[1] 60,626,000	100	[1] $938,000	100	42,612,000	$553,000	10,301,000	$359,000
Virginia	25,083,000	41	326,000	35	23,001,000	239,000	2,082,000	87,000
Maryland	20,373,000	34	319,000	34	12,786,000	124,000	7,587,000	195,000
California	1,702,000	3	69,000	7	1,702,000	69,000		
Washington	2,179,000	4	51,000	5	2,179,000	51,000		
North Carolina	390,000	1	34,000	4	113,000	1,100	277,000	33,000
New Jersey	[2] 4,952,000	8	[2] 34,000	4	282,000	9,100	63,000	6,200
Louisiana	322,000	1	29,000	3	244,000	7,800	78,000	21,000
Mississippi	426,000	1	15,000	2	380,000	9,800	47,000	5,600
Delaware	[3] 3,178,000	5	[3] 13,000	1	57,000	600	142,000	8,400
New York	[4] 665,000	1	[4] 9,800	1	580,000	7,400	22,000	2,300
Georgia	196,000	(5)	7,500	1	196,000	7,500		
Oregon	200,000	(5)	6,900	1	200,000	6,900		
Florida	[6] 211,000	(5)	[6] 6,500	1	148,000	2,900		
Alabama	246,000	(5)	6,100	1	246,000	6,100		
Texas	200,000	(5)	5,000	1	199,000	4,800	600	200
Rhode Island	146,000	(5)	2,900	(5)	146,000	2,900		
Massachusetts	122,000	(5)	2,600	(5)	121,000	2,400	1,800	200
South Carolina	33,000	(5)	900	(5)	33,000	900		

[1] Includes 7,643,000 pounds of king crabs, valued at $23,000; 62,000 pounds of stone crabs, valued at $3,700; and 7,200 pounds of spider crabs.
[2] Includes 4,607,000 pounds of king crabs, valued at $18,000.
[3] Includes 2,980,000 pounds of king crabs, valued at $4,300.
[4] Includes 63,000 pounds of king and spider crabs, valued at $100.
[5] Less than 1 per cent.
[6] Includes 62,000 pounds of stone crabs, valued at $3,700.

The statistics of the hard and soft crab product, for the years for which returns are available, are given in the following tabular statement:

DIVISION AND YEAR.	HARD AND SOFT CRAB PRODUCT.					
	Total.		Hard crabs.		Soft crabs.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States:						
1908	52,913,000	$912,000	42,612,000	$553,000	10,301,000	$359,000
1902-1905	40,218,000	906,000	32,061,000	578,000	8,156,000	328,000
1889-1892	16,004,000	566,000	[1] 9,770,000	[2] 213,000	[3] 6,029,000	[3] 346,000
1880	7,711,000	338,000	(4)	(4)	(4)	(4)
New England states:						
1908	268,000	5,400	266,000	5,300	1,800	200
1905	80,000	2,300	73,000	1,100	6,000	1,200
1889	13,000	2,200	7,900	600	5,000	1,700
1880	13,000	1,400	(4)	(4)	(4)	(4)
Middle Atlantic states:	(4)	(4)	(4)	(4)	(4)	(4)
1908	46,602,000	678,000	36,705,000	380,000	9,897,000	298,000
1904	31,975,000	675,000	24,057,000	366,000	7,919,000	309,000
1897	17,226,000	337,000	11,523,000	85,000	5,703,000	252,000
1891	11,635,000	426,000	5,751,000	87,000	5,884,000	339,000
1880	7,026,000	313,000	(4)	(4)	(4)	(4)
South Atlantic states:						
1908	765,000	46,000	488,000	12,000	277,000	33,000
1902	385,000	19,000	185,000	4,400	200,000	15,000
1891	193,000	4,200	(4)	(4)	(4)	(4)
1881	60,000	1,300	(4)	(4)	(4)	(4)
Gulf of Mexico states:						
1908	1,197,000	55,000	1,071,000	29,000	126,000	27,000
1902	1,697,000	28,000	1,666,000	25,000	31,000	2,900
1897	1,780,000	22,000	1,759,000	21,000	21,000	1,700
1890	1,219,000	26,000	1,074,000	19,000	144,000	7,300
1880	324,000	8,100	(4)	(4)	(4)	(4)
Pacific coast states:						
1908	4,081,000	127,000	4,081,000	127,000		
1904	6,080,000	182,000	6,080,000	182,000		
1899	4,062,000	100,000	4,062,000	100,000		
1895	2,752,000	67,000	2,752,000	67,000		
1892	2,945,000	107,000	2,945,000	107,000		
1880	300,000	15,000	300,000	15,000		

[1] Not including the New England states and the South Atlantic states.
[2] Not reported.
[3] Not reported separately.

The crab fisheries show a great increase in productivity. As compared with the product of hard and soft crabs in 1908, amounting to 52,913,000 pounds, valued at $912,000, the figures for 1880 are small, the product being only 7,711,000 pounds, valued at $338,000. Virginia and Maryland are the states reporting the largest quantities in 1880, as well as in 1908, but New York and New Jersey followed closely, and the value of New Jersey's product in 1880 was greater than that of all the remaining states of the Atlantic seaboard and the Gulf combined. No figures covering the whole United States are available for any single year of the intervening period, but the composite figures show the increase to be general. The increase in value shows greater fluctuations than the increase in the quantity of the product.

The king crab or horseshoe crab is used for bait and hog feed, but most extensively for fertilizer purposes. The following tabular statement shows the product for certain specified years:

YEAR.	KING-CRAB PRODUCT.	
	Quantity (pounds).	Value.
1908	7,643,000	$23,000
1904	2,303,000	8,900
1891	3,539,000	8,200
1880	8,600,000	16,000

All king crabs reported were taken from the Atlantic Ocean along the Middle Atlantic states, two-thirds of the quantity coming from New Jersey.

The most common method of taking hard crabs is with meat-baited lines, hand or set, and a dip net in which the crab is caught when hauled to the surface. Two-thirds of the soft-crab catch is taken with dredges. King crabs were formerly all caught by hand or with forks on the beach, but the great bulk are now taken in pound nets.

Flounders (*Pleuronectidæ*).—The family of flounders is composed of the turbots, the halibuts, the plaices, and probably the soles. Since the halibuts are considered separately they are not here included under flounders.

The name flounder is variously applied to the flat fishes found on all the coasts of the United States, and known as "American sole," "bastard halibut," "Monterey halibut," "winter flounder," "starry flounder," "rough limanda," "diamond flounder," "long-finned sole," "sand dab," "rough dab," "Greenland turbot," "pole flounder," "craig flounder," "spotted sand flounder," etc. They vary in size and shape, and are sold for both food and bait. The catch is taken in weirs, nets, beam trawls, and seines, and with hand lines and gaffs.

The catch of flounders in 1908 was valued at $588,000, and represented a little over 1 per cent of the total fishery product. It was derived from the fisheries of 21 states, including every coast state except New Hampshire. Massachusetts, California, and New York, however, reported 79 per cent of the weight and 73 per cent of the value of the total, and this, combined with the product of Rhode Island, New Jersey, and Connecticut, represents 93 per cent of the total weight and 90 per cent of the total value. The statistics of the product for the more important states are as follows:

STATE.	FLOUNDER PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	23,346,000	100	$588,000	100
Massachusetts	7,124,000	31	146,000	25
California	6,681,000	29	144,000	24
New York	4,629,000	20	141,000	24
Rhode Island	1,891,000	8	50,000	9
New Jersey	650,000	3	25,000	4
Connecticut	707,000	3	21,000	4
All other states	1,664,000	7	60,000	10

Comparative figures of the product of flounders, so far as available, are given in the following tabular statement. A marked increase appears in both the quantity and the value of the catch in 1908, as compared with earlier years.

YEAR.	FLOUNDER PRODUCT.	
	Quantity (pounds).	Value.
1908	23,346,000	$588,000
1902–1905	14,212,000	377,000
1898–99	12,012,000	237,000
1889–1892	10,365,000	257,000
1888[1]	5,167,000	150,000

[1] Exclusive of the product of the Pacific coast states.

Flounders were caught with a variety of apparatus of capture, and the quantity and value of the catch taken with the different kinds of apparatus are given in the following tabular statement:

KIND OF APPARATUS.	FLOUNDER PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	23,346,000	100	$588,000	100
Pound nets, trap nets, and weirs	4,369,000	19	138,000	23
Lines	4,017,000	17	91,000	15
Beam trawls	3,709,000	16	89,000	15
Fyke and hoop nets	2,955,000	13	75,000	13
Miscellaneous nets	3,638,000	16	68,000	12
Trammel nets	1,990,000	9	54,000	9
Seines	1,645,000	7	43,000	7
Gill nets	820,000	4	20,000	3
Harpoons, spears, etc	185,000	1	8,800	1
Pots, traps, etc	20,000	(1)	400	(1)

[1] Less than 1 per cent.

Haddock (*Melanogrammus æglifinus*).—The haddock is a food fish found in the Atlantic Ocean north of the Delaware capes; it is called "dickie" in some localities. The average weight is from 4 to 6 pounds. It is extensively used as a fresh food fish, and is also salted, pickled, and dried. When slack-salted and smoked it is sold under the name of "haddie."

The catch in 1908, valued at $1,308,000, represented 2 per cent of the total value of the fishery products of the United States and 4 per cent of the value of the food fish. In the product from the Atlantic coast this fish ranked seventh with respect to value, and represented 4 per cent of the total value. The catch was sold fresh, with the exception of 1,042,000 pounds, valued at $22,000, which were salted. The first tabular statement following gives the statistics of the weight and value of the haddock catch, by states.

The value of the catch of haddock in 1908 exceeded that of any year for which statistics are available, but the quantity was less than in 1904–5. Comparative figures are given in the second tabular statement following for 1908 and earlier years.

STATE.	HADDOCK PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	59,987,000	100	$1,308,000	100
Massachusetts	48,492,000	81	1,038,000	79
Maine	10,313,000	18	243,000	19
New York	424,000	1	12,000	1
Rhode Island	415,000	1	11,000	1
New Hampshire	100,000	(1)	2,700	(1)
Connecticut	24,000	(1)	900	(1)
New Jersey	20,000	(1)	600	(1)

[1] Less than 1 per cent.

YEAR.	HADDOCK PRODUCT.	
	Quantity (pounds).	Value.
1908	59,987,000	$1,308,000
1904–5	77,065,000	1,259,000
1897–98	45,997,000	584,000
1889–1891	43,639,000	743,000
1888	44,887,000	802,000

The catch was practically all taken with lines, only about 2 per cent being taken with seines and 1 per cent with pound nets, trap nets, and gill nets.

Hake (*Urophycis*).—The species included under this head are not true hakes, but comprise different varieties of food fish found off the Atlantic coast from Newfoundland to Cape Hatteras, which are variously known as "old English hake," "squirrel hake," "white hake," "ling," "king hake," "codling," etc. They are often prepared under the trade name of "boneless fish." The average length is from 1½ to 2 feet and the average weight from 3 to 8 pounds.

The value of the hake catch in 1908 was $464,000. All the product reported was sold fresh except 525,000 pounds, valued at $8,900, which were salted. The hake was taken only in the fisheries of the North Atlantic states, and practically the entire product was from Massachusetts and Maine, as shown in the following tabular statement:

STATE.	HAKE PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	34,340,000	100	$464,000	100
Massachusetts	16,708,000	49	294,000	63
Maine	17,398,000	51	168,000	36
All other states[1]	233,000	1	2,700	1

[1] Includes New Jersey, New York, New Hampshire, Connecticut, and Rhode Island.

Except for the greater proximity of the Massachusetts fisheries to the markets, no reason is apparent for the fact that the average value of the Massachusetts catch was so much greater than that of the Maine catch.

That the value of the hake product has increased substantially during recent years is indicated by the following tabular statement, giving statistics for years for which returns are available:

YEAR.	HAKE PRODUCT.	
	Quantity (pounds).	Value.
1908	34,340,000	$464,000
1904–5	35,929,000	419,000
1897–98	37,278,000	302,000
1889	14,816,000	161,000
1880	30,657,000	196,000

During the earlier years for which statistics are given, large quantities were salted; in 1898 several million pounds were salted, but in 1908 practically the entire product was sold fresh.

The catch was taken principally with lines, the capture with other apparatus not exceeding 2 per cent of the total.

Hake sounds used in the manufacture of isinglass have been included in the statistics of sounds, which are given on page 43.

Halibut (*Hippoglossus hippoglossus*).—The halibut, the largest and most valuable of the flat fishes, is found in the North Atlantic and Pacific Oceans. It is one of the largest species used for food, sometimes weighing over 300 pounds, but the average weight is from 50 to 75 pounds. There are three grades of halibut. The "white," which has its underside immaculate, is considered best and brings the highest price; the "gray" is blotched on the underside, and sells for a third less; the "sour" is tainted, and brings only about one-fourth as much as the "white." Small young fish, weighing from 10 to 20 pounds, are called "chickens," and are much sought after by epicures. Halibut are sold fresh and are also cured and smoked, while the napes are pickled. An oil used for currying purposes is made from the head, and the residue is used as a fertilizer under the name of "chum."

Halibut was the eighth in value among all the fishery products and the fifth among fish proper. In 1908 its value, $1,562,000, formed 3 per cent of that reported for the entire fishery product and 5 per cent of that for fish proper. In the Pacific coast division, from which about six-sevenths of the catch was taken, it ranked next after salmon, and comprised 18 per cent of the fishery product. Nearly all of the catch of the Pacific coast states came from the fisheries of Washington. The value per pound was so much higher on the Atlantic seaboard, that the product of the Atlantic coast states, although forming

only about one-eighth of the total halibut catch in quantity, contributed one-fifth of its total value. The statistics of the catch reported by the different states are as follows:

STATE.	HALIBUT PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	34,441,000	100	$1,562,000	100
Washington	30,072,000	87	1,236,000	79
Massachusetts	4,145,000	12	310,000	20
Maine	200,000	1	15,000	1
Oregon	16,000	(1)	700	(1)
Connecticut	8,500	(1)	600	(1)

[1] Less than 1 per cent.

The catch in 1908 was nearly twice as great in weight and value as that of any previous year. The most notable features of the statistics for 1908, as compared with those for prior canvasses, are the decrease in the catch of the New England fisheries and the increase in that of the Pacific coast fisheries. The following tabular statement gives the quantity and value of the catch for the various years for which returns are available:

YEAR.	HALIBUT PRODUCT.					
	Total.		Atlantic coast division.		Pacific coast division.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	34,441,000	$1,562,000	4,354,000	$326,000	30,088,000	$1,236,000
1904-5	15,807,000	597,000	3,716,000	238,000	12,091,000	359,000
1898-99	17,706,000	762,000	10,828,000	570,000	6,878,000	193,000
1890-1892	11,301,000	574,000	9,288,000	527,000	2,103,000	47,000
1888	12,819,000	727,000	11,599,000	695,000	1,220,000	32,000

With the exception of 656,000 pounds of salted halibut, valued at $53,000, all the output in 1908 was sold fresh. All the salted halibut product was reported by the fisheries of Massachusetts. In previous years much larger quantities were salted in the Massachusetts fisheries, as is shown by the following tabular statement giving the statistics for certain years for which detailed reports were made:

YEAR.	SALTED HALIBUT PRODUCT OF MASSACHUSETTS.	
	Quantity (pounds).	Value.
1908	656,000	$53,000
1905	466,000	19,000
1902	1,176,000	70,000
1898	1,860,000	60,000
1888	1,337,000	76,000

With the exception of 9,000 pounds, valued at $900, taken in other trawls, the entire halibut catch of the country was made with lines.

Herring (*Clupea harengus*).—The herring is a very important food fish found in the north Atlantic as far south as Sandy Hook; it is never found in brackish or fresh waters. "Sperling" and "brit" denote differences in the age of the fish. Trade names are "Digby chicken," "hard herring," "bloaters," etc. Herring weigh from one-half pound to one pound, and average in length about 10 inches. As a food fish they are used fresh, salted, pickled, smoked, and canned. They are also used extensively for bait in the cod, haddock, halibut, and hake fisheries.

The California herring is an allied species found along the entire length of the Pacific coast. The name "herring" is also applied to the Gulf menhaden on the Texas coast and to the menhaden in southern Florida. The hickory shad is called "thread herring" in North Carolina.

The herring catch in 1908 amounted to 125,050,000 pounds, valued at $796,000. Of this amount, 92 per cent was marketed fresh, and the balance, 8 per cent, was salted or smoked. Maine and Massachusetts fishermen captured 97 per cent of the total quantity, which represents 96 per cent of the total value. All of the salted product was reported from Maine and Massachusetts, and all of the smoked product from Maine. The statistics of the herring catch, by states ranked in the order of the value of their products, are given in the following tabular statement:

CONDITION OF PRODUCT, DIVISION, AND STATE.	HERRING PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	125,050,000	100	$796,000	100
Fresh	115,563,000	92	658,000	83
Salted	9,253,000	7	135,000	17
Smoked	234,000	(1)	2,900	(1)
Atlantic coast division	121,704,000	97	764,000	96
Maine	92,985,000	74	420,000	53
Fresh	89,188,000	71	389,000	49
Salted	3,563,000	3	28,000	4
Smoked	234,000	(1)	2,900	(1)
Massachusetts	28,501,000	23	342,000	43
Fresh	22,812,000	18	235,000	30
Salted	5,690,000	5	107,000	13
New York	2,600	(1)	100	(1)
Rhode Island	214,000	(1)	1,900	(1)
Pacific coast division	3,347,000	3	32,000	4
California	825,000	1	11,000	1
Oregon	15,000	(1)	300	(1)
Washington	2,506,000	2	21,000	3

[1] Less than 1 per cent.

The following tabular statement shows the quantity and value of the herring catch in specified years:

YEAR.	HERRING PRODUCT.	
	Quantity (pounds).	Value.
1908	125,050,000	$796,000
1904-5	85,367,000	712,000
1898-99	66,668,000	618,000
1889	60,120,000	426,000
1880	42,599,000	1,131,000

A large number of vessels engage in the winter herring fishery off the west coast of Newfoundland. The greater part of the catch was taken with pound nets, trap nets, and weirs. The distribution of the product by apparatus of capture was as follows:

KIND OF APPARATUS.	HERRING PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	125,050,000	100	$796,000	100
Pound nets, trap nets, and weirs	72,868,000	58	336,000	42
Seines	33,988,000	27	198,000	25
Gill nets	11,302,000	9	218,000	27
All other nets	6,892,000	6	45,000	6

Lake herring (*Leucichthys*).—The ciscoes, or lake herrings, are members of the whitefish family found in the Great Lakes and neighboring waters. There are various species popularly known as herring, with or without qualifying names, the common form (*L. artedi*) being most important.

Lake herring has always been the leading species from the Great Lakes, and in 1908 the value of the catch was $989,000, or 26 per cent of the total value of the fishery products of this division. Of the total value of the United States product it contributed 2 per cent, and of the value of fish proper 3 per cent. Considerably over one-half of the entire catch was made in Lake Michigan, where this fish represented over one-half of the weight and one-third of the value of the total product.

The following tabular statement gives the quantity and value of the catch, distributed by fishing grounds:

FISHING GROUND.	LAKE-HERRING PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	41,118,000	100	$989,000	100
Lake Michigan	21,059,000	51	551,000	56
Lake Erie	10,600,000	26	286,000	29
Lake Superior	5,361,000	13	78,000	8
Lake Huron	4,064,000	10	72,000	7
Lake Ontario and tributary rivers	35,000	(1)	1,700	(1)

[1] Less than 1 per cent.

Nearly five-eighths of the quantity of the product was reported as marketed fresh, the remainder being salted or smoked. The following tabular statement gives the statistics of the catch according to the condition in which it was marketed, the states being ranked according to the value of their catch:

STATE.	LAKE-HERRING PRODUCT: 1908.							
	Total.[1]				Fresh.		Salted.	
	Quantity.		Value.		Quantity (pounds).	Value.	Quantity (pounds).	Value.
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.				
Total	41,118,000	100	$989,000	100	25,242,000	$730,000	11,951,000	$191,000
Wisconsin	12,124,000	29	322,000	33	7,046,000	237,000	1,157,000	18,000
Michigan	14,787,000	36	304,000	31	5,170,000	149,000	9,617,000	156,000
Ohio	4,792,000	12	147,000	15	4,780,000	147,000	12,000	400
Pennsylvania	3,796,000	9	90,000	9	3,796,000	90,000	.....	.....
New York	2,044,000	5	51,000	5	2,044,000	51,000	.....	.....
Minnesota	2,778,000	7	38,000	4	1,608,000	21,000	1,165,000	18,000
Illinois	598,000	1	28,000	3	598,000	28,000	.....	.....
Indiana	198,000	(2)	8,400	1	198,000	8,400	.....	.....

[1] Includes 3,925,000 pounds of smoked lake herring, valued at $67,000, distributed as follows: Wisconsin, 3,921,000 pounds, valued at $67,000, and Minnesota, 4,000 pounds, valued at $200.
[2] Less than 1 per cent.

Every state bordering on the Great Lakes shared in the catch, but Wisconsin and Michigan took far greater quantities than any others, the Michigan catch being the largest and the Wisconsin catch of the greatest value. The higher value of the Wisconsin product was due to the fact that more than one-half was sold fresh, while only about one-third of the Michigan product was so marketed. The bulk of the salted herring was from Michigan, and nearly all the smoked product was from Wisconsin.

Comparative figures for certain years are given in the following tabular statement:

YEAR.	LAKE-HERRING PRODUCT.	
	Quantity (pounds).	Value.
1908	41,118,000	$989,000
1903	32,157,000	815,000
1899	59,914,000	941,000
1893	35,741,000	536,000
1889	53,661,000	717,000
1885	25,869,000	(1)
1880	15,968,000	(1)

[1] Not reported.

Although the value of the product was greater in 1908 than in any previous year, the quantity of the catch of that year was exceeded in 1889 and 1899.

Besides the herring salted and smoked by the fishermen, a considerable quantity was canned by establishments located mainly in Wisconsin and Michigan. The total output of lake herring from such factories in 1908 was valued at $480,000, and was distributed as follows: Smoked, $426,000; salted, $16,000; pickled, $4,600; and frozen, $33,000.

The largest part of the catch, 73 per cent, was made with gill nets, 27 per cent was taken with pound and trap nets, and less than 1 per cent with other apparatus.

Lake trout.—The common lake trout (*Cristivomer namaycush*) is found in the Great Lakes and in the smaller lakes of the Northern states. In different localities these fish vary greatly in color, size, and shape, and are known by the local names "salmon trout," "namaycush," "togue," "tuladi," "Mackinaw trout," "lake salmon," "black trout," "reef trout," "longe," etc. The "siscowet" (*C. siscowet*) is another species of lake trout. It is found principally in Lake Superior.

The lake trout was caught only in the Great Lakes, and the value reported for this species in 1908 was $800,000, or 21 per cent of the total value of the products from these waters. Of the total value of the United States fishery products this fish contributed somewhat more than 1 per cent, and of that of fish proper nearly 3 per cent. It was taken by the fisheries of every state bordering the Great Lakes, but 53 per cent of the total value of the product was reported by the fisheries of Michigan and 43 per cent by those of Wisconsin. In both Michigan and Wisconsin lake trout ranked first in value among the fishery products, contributing 29 per cent of the total value of the catch in the former state and 32 per cent in the latter. The following tabular statement gives the statistics of the catch, by states:

STATE.	LAKE-TROUT PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	12,024,000	100	$800,000	100
Michigan	6,798,000	57	424,000	53
Wisconsin	4,710,000	39	340,000	43
Illinois	150,000	1	15,000	2
Minnesota	215,000	2	12,000	2
Indiana	130,000	1	9,600	1
All other states [1]	21,000	(2)	1,500	(2)

[1] Includes New York, Pennsylvania, and Ohio. [2] Less than 1 per cent.

Next to lake herring, lake trout was the most valuable species taken in the Great Lakes.

Of the total value reported for this species, $546,000 was reported from Lake Michigan, this amount constituting 35 per cent of the total value of the products of this lake, and being exceeded only by the value reported for the lake-herring product.

The distribution of the quantity and value of the catch by fishing grounds was as follows:

FISHING GROUND.	LAKE-TROUT PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	12,024,000	100	$800,000	100
Lake Michigan	7,892,000	66	546,000	68
Lake Superior	2,752,000	23	163,000	20
Lake Huron	1,339,000	11	89,000	11
Lake Ontario	14,000	(1)	1,100	(1)
Lake Erie	6,900	(1)	400	(1)

[1] Less than 1 per cent.

Comparative figures for previous canvasses are given in the following tabular statement:

YEAR.	LAKE-TROUT PRODUCT.	
	Quantity (pounds).	Value.
1908	12,024,000	$800,000
1903	16,132,000	723,000
1899	10,612,000	431,000
1893	15,673,000	585,000
1889	11,202,000	453,000
1885	12,387,000	(1)
1880	6,905,000	(1)

[1] Not reported.

The quantity of the catch in 1908 was smaller than that reported at several previous canvasses, but its value has never been exceeded. All of the 1908 product was sold fresh except 353,000 pounds, valued at $19,000, which were salted.

The bulk of the value of the lake-trout catch, 76 per cent, represents the value of the catch made with gill nets; 14 per cent, that of the catch with lines; 10 per cent, that of the catch with pound and trap nets; and a small amount, that of the catch with fyke and hoop nets and seines. The following tabular statement gives the statistics of the catch, by apparatus of capture:

KIND OF APPARATUS.	LAKE-TROUT PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	12,024,000	100	$800,000	100
Gill nets	9,460,000	79	610,000	76
Lines	1,495,000	12	113,000	14
Pound nets, trap nets, and weirs	1,057,000	9	77,000	10
Fyke and hoop nets	10,000	(1)	900	(1)
Seines	1,600	(1)	100	(1)

[1] Less than 1 per cent.

Lobster (*Homarus americanus*).—The lobster, a decapod crustacean of great economic importance, is found on the Atlantic coast from Delaware to Labrador. It averages about 11 inches in length and about 2 pounds in weight, but the size varies with localities and seasons. It is caught in pots and traps especially constructed for the purpose.

The value of the lobster product in 1908, $1,931,000, placed it first among all crustaceans, second only to the oyster among marine invertebrates, and fifth among the entire fishery products of the United States. The catch, by states, is given in the following tabular statement. It will be noted that the order of rank according to value follows more or less closely the geographical order from north to south.

STATE.	LOBSTER PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	15,279,000	100	$1,931,000	100
Maine	9,929,000	65	1,269,000	66
Massachusetts	2,455,000	16	307,000	16
Rhode Island	1,425,000	9	152,000	8
Connecticut	661,000	4	84,000	4
New York	423,000	3	57,000	3
New Hampshire	264,000	2	43,000	2
New Jersey	115,000	1	16,000	1
Delaware	5,500		800	

The lobster product was essentially a New England product, the catch of the Middle Atlantic states forming less than 4 per cent of the total. The Maine lobster catch represented nearly 40 per cent of the value of all fishery products of that state.

In the following comparative statement for the New England states and the Middle Atlantic states, respectively, statistics are given of the quantity and value of the catch for those years covered by previous canvasses. The largest product shown for any period is that of over thirty million pounds reported in 1889-1891, the greater part of which came from the New England states. By comparing the returns from the New England states for 1880 with those for 1908 a decrease of 26 per cent in the quantity of the catch and an increase of 292 per cent in its value are shown.

STATE GROUP AND YEAR.	LOBSTER PRODUCT.	
	Quantity (pounds).	Value.
New England states:		
1908	14,735,000	$1,857,000
1905	11,524,000	1,319,000
1902	14,756,000	1,337,000
1898	14,962,000	1,277,000
1889	30,450,000	834,000
1887	27,674,000	732,000
Middle Atlantic states:		
1908	545,000	74,000
1904	374,000	46,000
1901	252,000	30,000
1897	485,000	40,000
1891	339,000	29,000

To a certain extent the growth of the lobster fishery under the protection of restrictive laws is directly connected with the history of the lobster-canning industry of Maine, first started in 1842. At first the lobsters used for canning varied in weight from 3 to 10 pounds, but gradually, owing to the high price obtainable for fresh lobsters, the weight fell until lobsters weighing as low as three-fourths of a pound were employed. As a result of the very perceptible diminution in the annual product caused by this destruction of the young, canneries were in 1879 prohibited from packing lobsters except from April 1 to August 1, while in 1883 it was made illegal to can lobsters less than 9 inches in length. The canning season was subsequently shortened by law until in 1891 it was limited to the weeks between April 20 and June 1. The last blow to the canning business, which had been rapidly declining, was given in 1895, when the minimum length for canning was fixed at 10½ inches. Since this legislation was passed the industry has disappeared from Maine. As early as 1884 every state interested had passed laws to regulate and protect the lobster fishery. At about the same time artificial propagation was begun by the United States Fish Commission in an endeavor to check the diminution and possibly increase the supply; but so far these efforts have met with little success. In no state can lobsters shorter than 9 inches now be taken, while in all the states the destruction of the female

carrying eggs is prohibited. Not only are the fry and larvæ artificially hatched and liberated, but the young lobsters are protected through the fourth or fifth larvæ stages, in order to insure them against the many dangers they encounter during the earlier period of their existence.

Since the lobster-canning business in the United States has ceased, the importation of lobsters has greatly increased. The following tabular statement shows the importation of lobsters, canned and uncanned, for 1890, 1900, and 1908, for the fiscal years ending June 30:

SOURCE.	IMPORTS OF LOBSTERS.				
	1908		1900		1890
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Value.
Total	8,213,000	$1,401,000	7,497,000	$931,000	$568,000
British Africa	136,000	23,000	144,000	11,000	.....
Canada	8,064,000	1,375,000	7,329,000	915,000	491,000
Newfoundland and Labrador	5,300	1,500	17,000	3,400	76,000
All other sources	7,700	1,800	7,100	1,400	800

The entire catch was made in pots or traps. The lobsters are taken from the traps and put into floating cages called cars, where they are kept until enough are gathered to warrant shipment. They are marketed either alive or boiled. On account of the higher price received for the former the dealers often keep them until sold in "live-cars," which are similar to those used by the fishermen but much larger. Dealers often build large pounds sometimes covering a number of acres, where lobsters are fed until a satisfactory price may be obtained.

Lobster, spiny.—Closely allied to the American lobster is the spiny or rock lobster, often called crawfish or crayfish, found on the coast of California from Monterey to San Diego, and also along the Gulf coast of Florida. Its flesh is coarser and less tender than that of the eastern lobster, but its characteristics and habits are similar. The spiny lobster is more active, however, swimming more rapidly through the water and more often escaping from the ordinary lobster pots.

The total catch in the United States in 1908 was 626,000 pounds, valued at $71,000, which was a little more than half the quantity caught in 1902–1904, but about equal to the normal catch for the past ten years. This fishery has reached much larger proportions in California than in Florida. In 1908, 573,000 pounds, valued at $69,000, were caught in California and only 53,000 pounds, valued at $2,600, in Florida. The statistics of the catch of California and of Florida for those years for which returns are available are given in the following tabular statement:

STATE AND YEAR.	SPINY-LOBSTER PRODUCT.	
	Quantity (pounds).	Value.
California:		
1908	573,000	$69,000
1904	1,078,000	43,000
1899	607,000	14,000
1895	558,000	13,000
1892	303,000	8,500
1891	272,000	7,700
1890	278,000	7,700
1889	266,000	7,300
1880	210,000	5,600
Florida:		
1908	53,000	2,600
1902	56,000	3,300
1897	158,000	3,200

In California the spiny-lobster product increased steadily from 1880 to 1899. In 1904 there was an abnormal catch, but in 1908 the total catch, while greater than that in 1895, was slightly less than the catch in 1899.

The entire catch in the state of California in 1908 was made with traps. Formerly set nets were used extensively, especially by the Japanese fishermen, but with great damage to the industry, for if small lobsters under legal size were caught in these nets, it was almost impossible to remove them without seriously maiming or crippling them. As early as 1894 the several counties in California where these lobsters were caught had made local provisions prohibiting the sale or catching of lobsters from May 15 to July 15, and fixing 1 pound as the minimum weight. They are now protected by state laws establishing a closed season from February 15 to September 15 and limiting the size to be caught.

The California spiny lobster is canned as well as sold fresh.

Mackerel (Scomber scombrus).—The mackerel is found in the north Atlantic south as far as Cape Hatteras. It ranges from 9 to 18 inches in length and from one-half pound to 3 pounds in weight, and is caught in purse seines, pound nets, weirs, gill nets, etc., and with hook and line. Small mackerel are known as "spikes" when from 5 to 6 inches in length, as "blinkers" when from 7 to 8 inches in length, and as "tinkers" when 9 inches in length.

The catch in 1908 amounted to 12,103,000 pounds, valued at $848,000. Four-fifths of this quantity was marketed fresh and the remaining one-fifth was salted. All of the salted mackerel, except a small amount reported from Maine, was taken by the vessel fisheries of Massachusetts. The following tabular statement gives the statistics of the catch, by states:

CONDITION OF PRODUCT AND STATE.	MACKEREL PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	12,103,000	100	$848,000	100
Fresh	9,870,000	82	686,000	81
Salted	2,233,000	18	162,000	19
Massachusetts	10,453,000	86	761,000	90
Fresh	8,222,000	68	600,000	71
Salted	2,231,000	18	161,000	19
Maine	380,000	3	31,000	4
Fresh	375,000	3	31,000	4
Salted	2,200	(1)	200	(1)
Rhode Island	537,000	4	25,000	3
New Jersey	501,000	4	14,000	2
Connecticut	122,000	1	8,900	1
New York	106,000	1	6,600	1
Maryland	4,400	(1)	900	(1)

[1] Less than 1 per cent.

The quantity and value of the mackerel catch for prior years, so far as statistics are available, are given in the following tabular statement:

YEAR.	MACKEREL PRODUCT.	
	Quantity (pounds).	Value.
1908	12,103,000	$848,000
1904–5	16,324,000	1,107,000
1902	20,359,000	1,137,000
1897–98	8,960,000	491,000
1888	16,212,000	1,109,000

The data given for 1902 are for the New England states alone, there being no statistics for the Middle Atlantic states for that year. The catch of the Middle Atlantic states, however, is of slight relative importance, having constituted, in the years for which figures are available, only about 2 per cent of the total.

About 72 per cent of the total value of the mackerel product represented the value of the catch with seines, 22 per cent the value of that made with gill nets, 5 per cent the value of that with pound nets, trap nets, and weirs, and 1 per cent the value of the capture with lines.

The statistics for the chub mackerel (*Scomber japonicus*) and the Spanish mackerel (*Scomberomorus maculatus*) are not included in the foregoing presentation. The catch of the chub mackerel in 1908 amounted to 639,000 pounds, valued at $16,000, the greater part of which was taken by Rhode Island fishermen. While this species closely resembles the common mackerel, and is an excellent food fish, the average price in 1908 was much lower than that of the common mackerel. The catch of Spanish mackerel was 3,806,000 pounds, valued at $194,000, the greater part of which was reported from Florida.

Menhaden (Brevoortia tyrannus).—The menhaden is a fish of the herring family, found along the Atlantic seaboard from Maine to Florida. It is known by a great many local names, the most common being "pogy," "hardhead," "hardhead shad," "bony fish," "whitefish," "mossbunker," "bunker," "cheboy," "marshbanker," "alewife," "oldwife," "ellwife," "pilcher," "green-tail," "bug-fish," "bug-shad," "bug-head," "fat-back," "yellowtail," "shiner," "herring," etc. The average length of menhaden is from 10 to 12 inches, and the average weight from two-thirds of a pound to 1 pound. They are caught in purse seines, haul seines, gill nets, set nets, and weirs. Their economic importance is due mainly to the oil and guano which are produced from them; they are also used as bait for mackerel, cod, halibut, haddock, and sea bass. As a food fish they are sold fresh, salted, and canned. "Fish meal," a food for domestic animals, is also made from them.

The menhaden is the most abundant fish found anywhere in the waters of the United States and forms one of the principal fishery products. The total catch in 1908 was 394,776,000 pounds, which quantity represented one-fifth of the weight of all fishery products of the country, and was nearly 70 per cent greater than the weight of the fishery product next in rank. In value, however, this fish ranked fourteenth, contributing $893,000 in 1908, or only 2 per cent of the value of all fishery products. The catch, by states, is given in the following tabular statement, in which the states are ranked according to the value of their respective products:

STATE.	MENHADEN PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	394,776,000	100	$893,000	100
Virginia	190,089,000	48	429,000	48
Delaware	59,815,000	15	152,000	17
Connecticut	28,636,000	7	93,000	10
North Carolina	57,412,000	15	70,000	8
Rhode Island	17,942,000	5	48,000	5
New Jersey	12,417,000	3	43,000	5
Maryland	12,263,000	3	30,000	3
New York	12,762,000	3	22,000	2
All other states[1]	3,411,000	1	5,400	1

[1] Includes Alabama, Florida, Massachusetts, and Mississippi.

In 1908 menhaden fishing was pursued along the Atlantic coast from Massachusetts to North Carolina, and a small quantity of the fish was also taken in the Gulf of Mexico off the coast of Florida. The menhaden is very irregular in its movements. Some years it goes as far north as Nova Scotia, and several menhaden factories are situated in Maine ready to be operated when the fish appear on that coast. In 1908 these factories were not operated. In 1900 this fish was found along the coast of Texas, but none was taken in that locality in 1908. Menhaden approach the coast waters upon the advent of warm weather and remain until the water cools. They are seen as

early as March in Chesapeake Bay, but not until much later in the more northern waters. They usually leave the colder waters of the North early in September, but are found around Cape Hatteras as late as January.

It is impossible to give thoroughly comparable data for former years for the United States as a whole, but composite statistics are given in the following tabular statement for the years 1880, 1889–1891, 1901–2, and 1908:

YEAR.	MENHADEN PRODUCT.	
	Quantity (pounds).	Value.
1908	394,776,000	$893,000
1901–2	531,280,000	1,075,000
1889–1891	448,573,000	1,060,000
1880	570,424,000	(1)

[1] Not reported.

This fishery appears to have been less profitable in 1908 than in former years.

Purse and haul seines were the principal forms of apparatus of capture used in this fishery, these two alone taking 94 per cent of the total quantity in 1908. Pound nets, trap nets, and gill nets took 6 per cent of the product, while all other apparatus contributed less than 1 per cent. The following tabular statement gives the distribution of the product by apparatus of capture:

KIND OF APPARATUS.	MENHADEN PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	394,776,000	100	$893,000	100
Seines	371,636,000	94	$22,000	92
Pound and trap nets	21,138,000	5	67,000	8
Gill nets	1,982,000	1	3,300	(1)
All other	18,000	(1)	200	(1)

[1] Less than 1 per cent.

Mullets (*Mugil cephalus and M. curema*).—Two species of mullet, known as the striped mullet and the white mullet, figure among the fishery products of the United States. The striped mullet is found on the Atlantic coast from Cape Cod to Florida and on the coast of southern California, ascending streams; and the white mullet, on the Atlantic coast from Cape Cod southward. Local names are "bluefish mummichog," "jumping mullet," "sand mullet," "fat-back," "silver mullet," "big-eyed mullet," "blue-back mullet," "Liza," and "Josea." *M. cephalus* is the most important food fish of the South, and greatly surpasses *M. curema* both in numbers and in economic importance. It averages about 1 foot in length and 1 pound in weight, but sometimes reaches a weight of from 4 to 5 pounds and a length of 2 feet. It is caught in haul seines, gill nets, cast nets, pound nets, etc., and is sold fresh and salted; the roe is also very valuable food, and is sold fresh, salted, smoked, and dried.

Mullet in 1908 ranked thirteenth in value among the fishery products of the United States. Its value, including that of roe, was $908,000, forming 2 per cent of the value of the entire fishery product and 3 per cent of the value of the fish product proper. In the Gulf of Mexico fisheries, from which over half of the total was obtained, it ranked fourth in value and represented 11 per cent of the total value of products reported for these fisheries. The following tabular statement gives the mullet catch by states, which are arranged according to the value of their product:

STATE.	MULLET PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	33,703,000	100	$908,000	100
Florida	24,582,000	73	637,000	70
North Carolina	5,070,000	15	175,000	19
Alabama	1,656,000	5	33,000	4
Mississippi	1,035,000	3	20,000	2
South Carolina	664,000	2	19,000	2
Virginia	264,000	1	9,400	1
Louisiana	133,000	(1)	5,600	1
Georgia	194,000	1	5,400	1
Maryland	47,000	(1)	1,600	(1)
All other states [2]	59,600	(1)	2,600	(1)

[1] Less than 1 per cent.
[2] Includes Delaware, Texas, New Jersey, California, and New York.

Florida, in which state mullet was the leading product, furnished the bulk of the catch.

The mullet reported as salted amounted to 3,020,000 pounds, with a value of $122,000, of which 1,885,000 pounds, valued at $80,000, were from North Carolina; 1,046,000 pounds, valued at $39,000, from Florida; and 89,000 pounds, valued at $3,100, from South Carolina. The balance was marketed fresh. Included with this salted mullet are 135,000 pounds of salted roe, valued at $15,000.

The value of the total mullet product in 1908 was greater than that for any previous year, although the quantity was exceeded in 1902–1904. The following tabular statement gives the yield for those years for which statistics are available:

YEAR.	MULLET PRODUCT.	
	Quantity (pounds).	Value.
1908	33,703,000	$908,000
1902–1904	41,882,000	715,000
1897–1899	21,425,000	333,000
1890–91	[1] 21,258,000	302,000
1888 [2]	10,185,000	243,000
1880 [2]	8,237,000	224,000

[1] Exclusive of the product of the Pacific coast division, for which the quantity was not reported.
[2] Exclusive of the product of the Pacific coast division.

The quantity and value of the salted mullet-roe product for certain years are given in the following tabular statement:

YEAR.	SALTED MULLET-ROE PRODUCT.	
	Quantity (pounds).	Value.
1908	135,000	$15,000
1902	135,000	6,300
1897	144,000	13,000
1890	299,000	17,000

Gill nets took two-thirds of the mullet caught and seines almost one-fourth.

Mussels.—The black, thin-shelled salt-water mussel (*Mytilus edulis*) is found on the Atlantic coast as far south as North Carolina and on the Pacific coast north of Monterey. The shells are used as a cultch for young oysters, as paint holders, and as ornaments. Large quantities of another genus (*Modiola*) are sold to farmers along the New Jersey and Long Island coasts for fertilizer. The fresh-water mussels (*Unionidæ*) are of much value as food for animals and birds, and the shells are used in making pearl buttons.

Mussels appear among the products of 17 states. In the case of the salt-water product the quantity of the catch is reported on the contained meat basis, while for the fresh-water varieties, which are taken primarily for the shells and pearls, the quantity represents the weight of shells. The salt-water product, which is the product referred to in this report under the head of "Mussels," is included in the returns of six states—California, Connecticut, Massachusetts, New Jersey, New York, and Rhode Island. Connecticut was the only one of these states reporting also the fresh-water varieties. The remaining 11 states which had mussel fisheries obtained their product entirely from the fresh waters of the Mississippi River and its tributaries. The meat of the salt-water product is sold for bait to fishermen and for fertilizer to farmers, and is also pickled and sold as an article of food. The shell of the salt-water mussel is utilized to a certain extent in the manufacture of buttons and mother-of-pearl articles, but no record of this shell product enters into the returns given in the present report. The statistics of the salt-water product are given in the following tabular statement:

STATE.	MUSSEL PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	8,542,000	100	$12,000	100
New York	8,175,000	96	8,200	68
California	68,000	1	1,600	13
New Jersey	287,000	3	1,400	12
Connecticut	7,300	(1)	200	2
Rhode Island	3,500	(1)	100	1
Massachusetts	1,100	(1)	100	1

[1] Less than 1 per cent.

The products of the fresh-water mussel-shell fisheries were as follows:

STATE.	MUSSEL-SHELL PRODUCT: 1908.			
	Quantity (pounds).	Value.		
		Total.	Shells.	Pearls and slugs.
United States	81,809,000	$692,000	$392,000	$300,000
Illinois	39,809,000	355,000	184,000	170,000
Indiana	14,431,000	155,000	81,000	74,000
Arkansas	8,960,000	70,000	42,000	28,000
Iowa	4,699,000	44,000	33,000	11,000
Kentucky	3,413,000	20,000	18,000	1,900
Tennessee	2,170,000	14,000	9,400	4,200
Wisconsin	1,150,000	12,000	6,900	5,400
Minnesota	767,000	8,400	4,700	3,700
Ohio	1,597,000	7,000	6,600	400
Connecticut	5,403,000	5,400	5,400	.....
Missouri	170,000	1,600	1,000	600
Michigan	200,000	800	800	.....

Illinois reported 52 per cent of the total value of the mussel-shell product and considerably more than one-half of the value of the pearl output. Indiana was next in order, contributing a product valued at 22 per cent of the total. The fisheries of the Ohio River and its tributaries, during 1908, were more prolific than those of the Mississippi River proper. Of the total value of the Illinois product, $114,000 came from the Ohio River, which, added to the value of the yield from Indiana, Ohio, Kentucky, and Tennessee, made a total of $309,000 as the value of the mussel-shell product of this river and its tributaries. The Illinois River produced shells valued at $139,000, which leaves a balance of $239,000 as the value of those reported from the Mississippi and its other tributaries. Considerably over half the value of pearls reported ($154,000) was from the Ohio River district, as compared with a value of $146,000 reported from the Mississippi River district, including the fisheries of the Illinois River. Of shells, however, the Mississippi River district, including the Illinois River, produced a quantity valued at $230,000, compared with the product of the Ohio River district, which had a value of $156,000. In the Ohio River district the mussel product was much more valuable than that of all other fishery products combined, and in the Mississippi River district it was second only to carp.

The total shell product for 1908 shows an increase of 72 per cent in quantity and 81 per cent in value, compared with 1899, when the quantity was 47,648,000 pounds, valued at $216,000. The yield of pearls was not reported in 1899. In the returns of shells for that year only five states were represented—Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The Illinois product has had a marked growth from 8,910,000 pounds in 1899 to 39,809,000 pounds in 1908. The Minnesota output, too, was much larger in 1908 than 1899. In the other three states, however, there has been a pronounced decrease. Iowa in 1899 produced

20,354,000 pounds of shells and Wisconsin 16,260,000 pounds. In 1908 these two states produced, respectively, 4,699,000 and 1,150,000 pounds. In 1894 the industry was barely started, and the total product was only 196,000 pounds, valued at $2,700. Of this, Iowa supplied 148,000 pounds and Illinois the balance.

Pearling has uniformly preceded traffic in shells. In hunting for pearls the fishers wade in the shallow waters, feeling for the mussels with their feet or looking for them through a water telescope, and gather them by hand when found. In deeper water, garden rakes, to which are attached small bag nets, are used from small boats. Tongs are also an implement of common use. As the quantity of pearls taken becomes less and the excitement of hunting for them consequently subsides, the fishermen begin to look to the shells for their main remuneration. They then adopt more systematic methods, making use of the crowfoot dredge. This implement consists of an iron bar to which iron hooks with from two to four prongs are attached at intervals. As the bar is dragged downstream, the mussels, which lie with their valves open upstream, close tightly upon the prongs as soon as touched. Most of the boats are fitted with motors to propel them upstream, while to make the best use of the current downstream a device called a mule is attached. The latter consists of a square of canvas stretched on a frame and let into the water from the prow of the boat, so that it presents a broad surface for the current to act upon.

The decrease in the quantity of the mussel shells taken in the Iowa and Wisconsin fisheries means that the pearl industry in those states is in danger. Manufacturers have been interested in schemes for providing a future supply, either by protective legislation, which shall promote natural increase, or by an attempt at private culture. The latter plan, however, has not been more than considered. The especially discouraging feature is that at least 10 years are required to grow most of the varieties to commercial size, during which period the mollusk is beset with many dangers, both from the fish which prey on it and from the physiographical conditions which surround it. The only experiments in private culture have been in the growth of pearls within the mussel, not of the mussel itself. These attempts have not yet passed beyond the experimental stage. The enactment of protective legislation also presents its problems. Because of the different size of various species at maturity no uniform restriction as to minimum size can be prescribed, and if a specific size for each variety were established it would be impossible, owing to the close resemblance between nearly all of the different species, for any but biologists to do the gathering. Furthermore, as the spawning time is very irregular and uncertain, the proper period for a closed season is difficult to determine. The state of Illinois, however, has enacted legislation establishing a closed season from October 1 to April 1 and has set limits to the capacity of apparatus used.

The importance of mussel shells dates from 1891, when a German opened a button factory at Muscatine, Iowa, modeled after those in Germany. His attention had been directed to this country by tariff regulations and attracted to this section of the United States by the abundance of shells left after the operations of pearl fishers. Previous to this an attempt to establish such a factory had been made in Tennessee, but had failed. The rapidity of the development of this industry is shown by the fact that at the close of 1897, 13 factories had been opened, while during the first six months of 1898, 36 others were established in Iowa, Wisconsin, and Illinois.

Pearl fishing was followed throughout the Mississippi Valley by the Indians and by the early settlers in a small way, but the first excitement in recent years was in 1878 in Ohio. Since that time at regular intervals "crazes" have developed in one section or another. Among these "crazes" may be mentioned that in Wisconsin beginning in 1889 and later extending down the river, that in Arkansas in 1895, that on the Clinch River in Tennessee in 1901, that on the Wabash in 1903, and that on the Illinois River in 1906. At the height of the excitement in Arkansas it is estimated that 10,000 persons were engaged in pearl fishing. The shells of the mussels were a waste product until the opening of the button factories. Now the shells are the important product of the industry, while pearls furnish the speculative element.

Oyster (Ostrea virginica).—Oysters ranked first in value among all fishery products of the United States in 1908, with a total product of 33,330,000 bushels, valued at $15,713,000, or 29 per cent of the value of all fishery products. Of the total oyster product, market oysters represented 77 per cent in quantity and 81 per cent in value. Although oysters from private beds formed but 44 per cent of the total quantity, yet culture enhances the value to such an extent that their total value was greater than that of the product from public areas. In the case of private areas the ownership often lies in the state. In some states, however, it is considered a part of the riparian property of the landowners, and in others—Connecticut and New York, for example—oyster grounds have been sold outright and the state has no further claim thereon.

The statistics for 1908 of market and seed oysters from public and private areas are given in the next tabular statement.

The oyster industry was reported for every state on both the Atlantic and Pacific coasts, with the exception of New Hampshire. The greatest production was from the beds of Long Island Sound and Chesapeake Bay. While Connecticut ranked first in the value of this product, there was little difference in the value of the output of the states of Connecticut, New York, Virginia, and Maryland, each of which yielded

oysters valued at over $2,000,000. Oysters were the principal fishery product in 15 of the 21 states in which oyster fisheries were carried on, viz, Alabama, Connecticut, Delaware, Georgia, Louisiana, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Texas, and Virginia.

KIND AND AREA.	OYSTER PRODUCT: 1908. Quantity. Bushels.	Quantity. Per cent distribution.	Value. Amount.	Value. Per cent distribution.
Total	33,330,000	100	$15,713,000	100
Market oysters	25,470,000	76	12,721,000	81
From public areas	14,806,000	44	4,416,000	28
From private areas	10,665,000	32	8,305,000	53
Seed oysters	7,859,000	24	2,992,000	19
From public areas	3,851,000	12	1,035,000	7
From private areas	4,008,000	12	1,957,000	12

The greatest yield of oysters from natural or public beds was in Chesapeake Bay, the combined product of Maryland and Virginia from public areas representing 47 per cent of the quantity and 58 per cent of the value of the total product from public areas. In Virginia the cultivation of oyster beds was also carried on extensively, and in fact over 57 per cent of the value of all oysters produced in Virginia was contributed by private areas. In Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, Georgia, and the Pacific coast states, the majority of the oysters were dredged from private areas, while in Maine, Maryland, North Carolina, South Carolina, Florida, and the Gulf states, the oysters were taken mostly from public beds. Of the product of Pennsylvania and Delaware the larger part was taken from public areas, but the product from private areas had a greater value.

The statistics of the quantity and value of both market and seed oysters, by states ranked according to the amount reported, are given in the following table:

STATE.	OYSTER PRODUCT: 1908.[1] Total. Amount.	Total. Per cent distribution.	Market. Amount.	Market. Per cent distribution.	Seed. Amount.	Seed. Per cent distribution.	Per cent of total. Market.	Per cent of total. Seed.
	QUANTITY (BUSHELS).							
United States	33,330,000	100	25,470,000	100	7,859,000	100	76	24
Maryland	6,232,000	19	5,830,000	23	402,000	5	94	6
Virginia	5,075,000	15	3,672,000	14	1,403,000	18	72	28
Connecticut	3,948,000	12	1,395,000	5	2,553,000	32	35	65
Louisiana	3,650,000	11	2,966,000	12	684,000	9	81	19
New Jersey	2,586,000	8	920,000	4	1,667,000	21	36	64
New York	2,463,000	7	1,849,000	7	614,000	8	75	25
South Carolina	1,563,000	5	1,563,000	6	.....	.....	100	.....
Georgia	1,459,000	4	1,436,000	6	23,000	(2)	98	2
Rhode Island	1,229,000	4	1,223,600	5	5,400	(2)	100	(2)
Mississippi	1,068,000	3	1,068,000	4	.....	.....	100	.....
Florida	1,067,000	3	1,067,000	4	.....	.....	100	.....
North Carolina	813,000	2	754,000	3	59,000	1	93	7
Alabama	590,000	2	536,000	2	54,000	1	91	9
Texas	497,000	1	490,000	2	7,500	(2)	98	2
Delaware	348,000	1	155,000	1	193,000	2	45	55
Pennsylvania	277,000	1	129,000	1	148,000	2	47	53
Washington	204,000	1	189,000	1	15,000	(2)	93	7
Massachusetts	155,000	(2)	124,000	(2)	31,000	(2)	80	20
California	104,000	(2)	104,000	(2)	.....	.....	100	.....
Oregon	1,300	(2)	1,000	(2)	300	(2)	77	23
Maine	200	(2)	200	(2)	.....	.....	100	.....
	VALUE.							
United States	$15,713,000	100	$12,721,000	100	$2,992,000	100	81	19
Connecticut	2,583,000	16	1,168,000	9	1,415,000	47	45	55
New York	2,533,000	16	2,173,000	17	361,000	13	85	15
Virginia	2,348,000	15	1,967,000	15	381,000	13	84	16
Maryland	2,228,000	14	2,127,000	17	101,000	3	95	5
New Jersey	1,369,000	9	884,000	7	485,000	16	65	35
Rhode Island	969,000	6	967,000	8	2,500	(2)	100	(2)
Louisiana	763,000	5	675,000	5	88,000	3	88	12
Washington	352,000	2	346,000	3	6,500	(2)	98	2
Georgia	339,000	2	334,000	3	4,600	(2)	99	1
California	337,000	2	337,000	3	.....	.....	100	.....
Florida	296,000	2	296,000	2	.....	.....	100	.....
Mississippi	295,000	2	295,000	2	.....	.....	100	.....
North Carolina	236,000	2	227,000	2	8,800	(2)	96	4
Massachusetts	218,000	1	203,000	2	15,000	1	93	7
Pennsylvania	176,000	1	134,000	1	42,000	1	76	24
Alabama	173,000	1	169,000	1	4,100	(2)	98	2
Delaware	169,000	1	112,000	1	57,000	2	66	34
Texas	168,000	1	167,000	1	600	(2)	99	(2)
South Carolina	137,000	1	137,000	1	.....	.....	100	.....
Oregon	4,200	(2)	4,000	(2)	200	(2)	95	5
Maine	200	(2)	200	(2)	(2)	.....	100	.....

[1] The oyster catch is credited to the state in which the home port of the fisherman is located.

[2] Less than 1 per cent.

The following tabular statement gives comparative statistics for 1908 and earlier years, by geographic divisions:

DIVISION.	OYSTER PRODUCT.							
	1908		1897–1901 [1]		1889–1892 [2]		1880	
	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.
United States	33,330,000	$15,713,000	26,910,000	$14,375,000	28,264,000	$16,152,000	22,195,000	$9,035,000
Atlantic coast division	27,268,000	13,434,000	24,011,000	12,583,000	24,979,000	14,507,000	21,602,000	8,712,000
New England states	5,332,000	3,771,000	2,649,000	1,911,000	1,726,000	1,393,000	537,000	655,000
Middle Atlantic states	16,982,000	8,842,000	19,750,000	10,288,000	21,346,000	12,403,000	20,756,000	10,932,000
South Atlantic states	4,364,000	821,000	1,612,000	385,000	1,192,000	254,000	310,000	120,000
Gulf of Mexico division	6,343,000	1,586,000	2,380,000	749,000	2,941,000	796,000	579,000	313,000
Pacific coast division	309,000	694,000	519,000	1,043,000	3,392,000	849,000	15,000	10,000

[1] Combined statistics for South Atlantic states and Gulf of Mexico, 1897; New England states, 1898; Pacific coast states, 1899; and Middle Atlantic states, 1900–1901.
[2] Combined statistics for New England states, 1889; Gulf of Mexico, 1890; Middle Atlantic and South Atlantic states, 1891; and Pacific coast states, 1892.

A marked increase is apparent in the product of the New England and of the South Atlantic states and a decrease in that of the Middle Atlantic states. In 1880 the product of the Middle Atlantic states formed 94 per cent of the total quantity, while in 1908 it formed but 51 per cent. The product of the New England states, on the other hand, progressively increased in quantity, representing 16 per cent of the total in 1908, as compared with 2 per cent in 1880, while the proportion represented by the product of the South Atlantic states increased from 1 per cent of the total quantity in 1880 to 13 per cent in 1908.

Pike perches (Stizostedion vitreum and S. canadense).—The "wall-eyed pike" (*S. vitreum*) is known as "glass eye," "pike perch," "yellow pike," "dory," and "blue pike" on the Great Lakes, and as "salmon," "jack," "okow," "blowfish," and "green pike" in other localities. It is an excellent food fish and sometimes reaches a weight of 20 pounds. The sauger, or sand-perch (*S. canadense*), which is smaller and less important as a food fish, is especially abundant in the Great Lakes. The catch of pike perch in 1908 amounted to 15,247,000 pounds, valued at $580,000. Of the total amount, 15,115,000 pounds, valued at $569,000, were taken in the Great Lakes, and the balance, all of which was of the wall-eyed species, was caught in the Mississippi River or its tributaries.

This fish was taken in 17 states, but almost 97 per cent of the total quantity was caught in Ohio, Pennsylvania, New York, and Michigan. Ohio alone is credited with 57 per cent of the total quantity and 50 per cent of the value. The statistics of the catch, by states ranked according to the value of the product, are given in the following tabular statement:

STATE.	PIKE-PERCH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	15,247,000	100	$580,000	100
Ohio	8,625,000	57	288,000	50
Michigan	1,194,000	8	98,000	17
Pennsylvania	2,956,000	19	98,000	17
New York	2,001,000	13	68,000	12
Minnesota	273,000	2	12,000	2
Wisconsin	88,000	1	6,900	1
All other states [1]	110,000	1	9,000	2

[1] Includes Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Missouri, Nebraska, Tennessee, and West Virginia.

As indicated by a comparison of the values for 1908 and previous years, this fish is growing rapidly in importance. No figures are available for the Mississippi River district in 1899, but as the Great Lakes furnish practically the entire amount, the figures would be changed very little by the addition of the river catch. The statistics of the catch for previous years are given in the following tabular statement:

YEAR.	PIKE-PERCH PRODUCT OF THE GREAT LAKES.	
	Quantity (pounds).	Value.
1908	15,115,000	$569,000
1903	9,998,000	407,000
1899	11,670,000	381,000

This fish is taken principally in gill nets and pound nets, less than 6 per cent of the total quantity in 1908 being caught with other kinds of apparatus.

Pollack (Pollachius virens).—The pollack, a food fish of importance, is found mainly off the New England coast. It sometimes appears as far south as Virginia. The average weight is about 10 pounds. The sounds are used in the manufacture of glue, the livers are sold in large quantities for the manufacture of oil, and the tongues are cut out and sold fresh.

The pollack catch in 1908 amounted to 29,462,000 pounds, valued at $402,000, less than 1 per cent of the total value for all fishery products and over 1 per cent of that for fish proper. The value of the catches of the fisheries of Massachusetts and Maine combined represented 97 per cent of the total. The statistics by states are given in the following tabular statement:

STATE.	POLLACK PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	29,462,000	100	$402,000	100
Massachusetts	20,006,000	68	313,000	78
Maine	8,941,000	30	75,000	19
Rhode Island	266,000	1	7,800	2
New York	133,000	(1)	3,500	1
New Jersey	84,000	(1)	1,100	(1)
Connecticut	25,000	(1)	800	(1)
New Hampshire	6,300	(1)	100	(1)

[1] Less than 1 per cent.

The yield for 1908 shows a large increase in value, compared with the product of 1905, but the weight was approximately the same for the two years. In both of these years, however, the product was much greater than in any other year for which statistics are available, as is shown by the following tabular statement:

YEAR.	POLLACK PRODUCT.	
	Quantity (pounds).	Value.
1908	29,462,000	$402,000
1904–5	29,033,000	305,000
1897–98	9,448,000	65,000
1889	8,442,000	90,000
1888	6,125,000	67,000

A small proportion of the pollack catch, less than 5 per cent of the total product, was salted by the fisheries in 1908, and a still smaller percentage was salted in 1905.

The catch is taken principally in the vessel fisheries, and the most important apparatus used are lines. In 1908, 68 per cent of the total quantity was taken with lines, 23 per cent with seines, and about 8 per cent with other kinds of apparatus.

Salmon.—The salmon of the Atlantic coast (*Salmo salar*) is found along the coast of the New England states. At different ages the fish are known as "parrs," "smolts," "grilse," "kelts," and "salmon." The adults weigh from 15 to 40 pounds. The landlocked salmon, or fresh-water salmon, or Sebago salmon (*S. sebago*), is found, as the name implies, in fresh waters, generally landlocked. The steelhead (*Salmo gairdneri*) is found in coastal streams from San Francisco northward.

The blueback salmon (*Oncorhynchus nerka*) is found on the Pacific coast from the Columbia River northward; and the California salmon, or chinook salmon, or quinnat (*O. tschawytscha*), is found from Monterey to Alaska. The dog salmon (*O. keta*) ranges from the Sacramento River to Bering Strait; the humpbacked salmon, or lost salmon (*O. gorbuscha*), from the Sacramento River to Alaska; and the silver salmon or white salmon (*O. kisutch*) is found in all rivers from the Sacramento River to Bering Strait.

The following are improperly called salmon and are not included in the following tables under that name: The California yellow-tail (*Seriola dorsalis*) which is known as the "white salmon" on the Pacific coast; the chub (*Ptychocheilus lucius*) of the Colorado River is sometimes called salmon; "kelp salmon" is applied to the cabrilla (*Paralabrax clathratus*) at Monterey; "lake salmon" to the lake trout in the lakes of northern New York; and "salmon" and "jack salmon" to the wall-eyed pike in the streams of the South.

Next to oysters, salmon is the most important of the fishery products. Its value in 1908 was $3,347,000, or 6 per cent of the total. It was first in importance among the different species of fish proper, and represented 11 per cent of their total value. Practically the entire catch was made on the Pacific coast, in which district salmon represented 49 per cent of the total value of fishery products. The statistics, by states, are given in the following tabular statement:

STATE.	SALMON PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	90,417,000	100	$3,347,000	100
Washington	54,312,000	60	1,571,000	47
Oregon	26,876,000	30	1,301,000	39
California	9,211,000	10	471,000	14
Maine	19,000	(1)	3,700	(1)
Connecticut	100	(1)	(2)	(1)
Massachusetts	(3)	(1)	(2)	(1)

[1] Less than 1 per cent. [2] Less than $100. [3] Less than 100 pounds.

The figures for the salmon product given here are for the product sold in the open market or to the canneries. The statistics for the product of the canneries and packing houses are given on page 283.

The statistics of the product of the Pacific coast states, classified according to variety, are as follows:

VARIETY.	SALMON PRODUCT OF THE PACIFIC COAST STATES: 1908.							
	Total.		California.		Oregon.		Washington.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	90,398,000	$3,343,000	9,211,000	$471,000	26,876,000	$1,301,000	54,312,000	$1,571,000
Chinook	39,359,000	2,080,000	8,846,000	460,000	18,176,000	1,056,000	12,336,000	565,000
Blueback	13,050,000	538,000	147,000	4,900	403,000	20,000	12,501,000	513,000
Silver	19,144,000	368,000	141,000	4,200	4,923,000	109,000	14,080,000	255,000
Steelhead	4,885,000	234,000	76,000	2,800	2,469,000	109,000	2,339,000	123,000
Dog, or chum	13,960,000	122,000			905,000	7,000	13,055,000	115,000

The species are ranked in the above statement according to total value; according to quantity the order is chinook, silver, dog or chum, blueback, and steelhead. The per cent distribution, by species, of the quantity and value is given below:

VARIETY.	SALMON PRODUCT OF THE PACIFIC COAST STATES: 1908 (PER CENT DISTRIBUTION).	
	Quantity.	Value.
Total	100	100
Chinook	44	62
Blueback	14	16
Silver	21	11
Steelhead	5	7
Dog, or chum	15	4

The next tabular statement gives the statistics of the Pacific coast salmon catch for those years for which data are available.

The fluctuation to be noted in earlier years in the relative amount of the product reported for Oregon and Washington, respectively, is due to the peculiar habit of the principal species caught in Puget Sound in coming in greatest abundance every fourth year, and somewhat, perhaps, to an uncertainty in reporting results of operations on that portion of the Columbia River which forms the boundary between the two states. The great decrease in bulk shown for Washington in 1908, as compared with 1899, amounting to nearly 50 per cent, is in marked contrast to the slight increase in the Oregon product, while the contrast in the movement of the value since 1899 is also marked. In California there was a decrease in both quantity and value from 1888 to 1895, but since then there has been a steady upward movement in value, although in 1908 the quantity of the catch shows a decrease from the high figures of 1904.

YEAR.	SALMON PRODUCT OF PACIFIC COAST STATES.							
	Total.		California.		Oregon.		Washington.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	90,398,000	$3,343,000	9,211,000	$471,000	26,876,000	$1,301,000	54,312,000	$1,571,000
1904	107,309,000	3,349,000	12,343,000	456,000	26,714,000	1,151,000	68,252,000	1,943,000
1899	130,005,000	3,505,000	7,283,000	262,000	21,374,000	830,000	101,348,000	2,413,000
1895	86,936,000	2,447,000	5,216,000	154,000	36,426,000	1,236,000	45,294,000	1,063,000
1888	48,807,000	2,083,000	8,539,000	417,000	23,948,000	985,000	16,320,000	687,000

The Alaska salmon product in 1908, which is not included in the above presentation, was 198,953,000 pounds, valued at $10,672,000. This was practically all marketed in a preserved condition, and the data therefor will be found in Chapter VIII, which relates to the packing and canning establishments.

Comparative figures for the salmon catch of New England as reported for prior years are as follows:

YEAR.	SALMON PRODUCT OF THE NEW ENGLAND STATES.	
	Quantity (pounds).	Value.
1908	19,000	$3,700
1905	86,000	20,000
1898	53,000	10,000
1888	205,000	42,000

A summary of the statistics for the total salmon catch of the United States, obtained by combining the figures for the Alaska salmon product with those for the salmon product of continental United States, is given in the following tabular statement:

DIVISION.	SALMON PRODUCT OF CONTINENTAL UNITED STATES AND ALASKA: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	289,370,000	100	$14,018,000	100
Pacific coast	289,351,000	100	14,015,000	100
Alaska	198,953,000	69	10,672,000	76
Pacific coast states	90,398,000	31	3,343,000	24
New England states	19,000	(1)	3,700	(1)

[1] Less than 1 per cent.

The distribution of the catch of salmon, exclusive of the Alaska product, by apparatus of capture, was as follows:

KIND OF APPARATUS.	SALMON PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	90,417,000	100	$3,347,000	100
Gill nets	46,219,000	51	1,941,000	58
Pound and trap nets	28,744,000	32	882,000	26
Seines	13,290,000	15	415,000	12
Wheels and slides	1,823,000	2	97,000	3
All other	342,000	(1)	12,000	(1)

[1] Less than 1 per cent.

Shad.—The common shad (*Alosa sapidissima*) is found on all the coasts of the United States and in some inland waters, the most important shad fisheries being in the rivers of the Atlantic slope. The average weight is about 4 pounds and the average length about 2 feet.

The names "mud shad," "gizzard shad," "winter shad," "stink shad," "hickory shad," and "white-eyed shad" are applied to different species. The menhaden is called "hardhead shad" about Cape Ann, "bug-shad" in Virginia, and "yellow-tailed shad" from North Carolina to Florida.

Shad was fourth in value among the fishery products of the United States in 1908. Among fish proper it was surpassed in value only by salmon and cod, while in the Atlantic coast fisheries, cod is the only fish for which a greater value was reported. Shad is indigenous to the rivers of the Atlantic coast, and the transplanting of this species to the Pacific coast was among the early activities of the United States Fish Commission. The extent to which the undertaking succeeded is shown in the tables which follow. The catch of shad in 1908 amounted to 27,641,000 pounds, valued at $2,113,000, or 4 per cent of the value of the entire fishery product and 7 per cent of the value of fish proper. Shad was reported by 17 states, including all the Pacific coast and all Atlantic coast states, except New Hampshire. The statistics of the catch, by states ranked according to the value of their respective products, are given in the following tabular statement:

STATE.	SHAD PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	27,641,000	100	$2,113,000	100
Virginia	7,314,000	26	486,000	23
North Carolina	3,942,000	14	373,000	18
Florida	2,836,000	10	320,000	15
Maryland	3,937,000	14	247,000	12
New Jersey	3,004,000	11	229,000	11
Georgia	1,333,000	5	190,000	9
Delaware	870,000	3	68,000	3
Maine	770,000	3	42,000	2
South Carolina	464,000	2	41,000	2
Pennsylvania	593,000	2	38,000	2
New York	360,000	1	27,000	1
Connecticut	122,000	(1)	18,000	1
California	1,169,000	4	12,000	1
Massachusetts	389,000	1	12,000	1
Oregon	431,000	2	8,000	(1)
Washington	100,000	(1)	1,900	(1)
Rhode Island	4,500	(1)	400	(1)

[1] Less than 1 per cent.

The first five states reported 78 per cent of the total value of this product. In all of these states shad ranked high in importance among the various species taken. In North Carolina it was first in value; in Virginia second, ranking next to oysters; in Maryland third; and in Florida and New Jersey fourth.

The distribution of the shad catch of 1908, by divisions and state groups, was as follows:

DIVISION AND STATE GROUP.	SHAD PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	27,641,000	100	$2,113,000	100
Atlantic coast division	25,941,000	94	2,092,000	99
Middle Atlantic states	16,079,000	58	1,096,000	52
South Atlantic states	8,572,000	31	923,000	44
New England states	1,286,000	5	72,000	3
Pacific coast division	1,700,000	6	22,000	1
Gulf of Mexico division	3,600	(1)	200	(1)

[1] Less than 1 per cent. [2] Less than $100.

The quantity and value of the shad reported for 1908 and earlier years are given in the following tabular statement:

YEAR.	SHAD PRODUCT.	
	Quantity (pounds).	Value.
1908	27,641,000	$2,113,000
1902–1905	28,563,000	1,702,000
1897–1899	49,767,000	1,520,000
1889–1892	41,645,000	1,764,000
1888	35,737,000	1,672,000
1880	18,075,000	996,000

The statistics show a marked decrease in quantity during the past decade, accompanied by an increase in value. Prior to 1897, both quantity and value increased steadily, but in that year an unusually large catch demoralized the price and made the total value much lower than in years for which smaller quantities were reported. Concerning the increase in the shad product during these earlier years, the Report of the Commissioner of Fish and Fisheries for 1898 (p. 104) states:

> There was a decrease in the yield in nearly every river on the coast until 1880, when the results of artificial propagation became apparent. * * * Since 1880 the aggregate yield has greatly increased. * * * It should be noted, however, that this largely increased yield has been accompanied and even surpassed by an increase in quantity and effectiveness of the apparatus of capture, but it was made possible by the results of artificial propagation.

When the shad fisheries were at the height of their activity, they employed nearly 25,000 men and used apparatus valued at over $2,000,000.

The Middle Atlantic states have always supplied the greater proportion of the shad product, their contribution varying from more than one-half to three-fourths of the total; and the South Atlantic states have been next in importance, with a fraction varying from one-fifth to one-third. In the New England states there has been little change from year to year.

The greater part of the shad product was sold fresh, although a considerable quantity was salted by the Chesapeake Bay fishermen and also by the fishermen of Maine and other states. Gill nets were the leading apparatus of capture, and in 1908 took a quantity representing 61 per cent of the total value. Pound and trap nets, used in the large estuaries, contributed 29 per cent of the total value, while the catch with seines represented 8 per cent, and that with all other apparatus 2 per cent.

Shrimp and prawn.—The shrimp is a decapod crustacean found in large numbers on all our coasts and in many inland waters. The usual length is about 2 inches, but some attain a larger size. They are caught in dip nets, purse nets, etc., and are used for food and bait. The prawn is generally larger than the shrimp, often having a length of 7 inches.

The catch of shrimp and prawn in 1908 was 19,080,000 pounds, valued at $494,000. The distribution, by states ranked according to the value of their product, is given in the following tabular statement:

STATE.	SHRIMP AND PRAWN PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	19,080,000	100	$494,000	100
Louisiana	8,581,000	45	213,000	43
Florida	4,353,000	23	92,000	19
Mississippi	4,121,000	22	81,000	16
California	258,000	1	31,000	6
Washington	247,000	1	22,000	4
Georgia	528,000	3	19,000	4
South Carolina	452,000	2	19,000	4
North Carolina	371,000	2	9,000	2
Texas	118,000	(1)	4,400	1
Massachusetts	5,800	(1)	1,300	(1)
Alabama	37,000	(1)	1,200	(1)
New Jersey	4,900	(1)	1,000	(1)
New York	1,500	(1)	600	(1)
Tennessee	1,700	(1)	200	(1)

[1] Less than 1 per cent.

The prawn catch included in the above was 4,706,000 pounds, valued at $104,000, and the shrimp catch 14,374,000 pounds, valued at $390,000. The distribution of the prawn product, by states, was as follows:

STATE.	PRAWN PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	4,706,000	100	$104,000	100
Florida	4,152,000	88	84,000	81
Georgia	394,000	8	13,000	12
South Carolina	160,000	3	7,300	7

By a subtraction of the foregoing figures from those presented for the same states in the tabular statement preceding, figures for the shrimp catch of these states are found to be as follows: Florida, 202,000 pounds, valued at $7,400; Georgia, 134,000 pounds, valued at $6,700; and South Carolina, 291,000 pounds, valued at $12,000. In all the remaining states the total catch was composed of shrimp.

The bulk of the shrimp and prawn product came from the warm southern waters, and by far the largest portion from Louisiana. In both Louisiana and Mississippi shrimp and prawn ranked next to oysters in value among the fishery products.

The distribution of the shrimp and prawn catch, by divisions, is shown by the following tabular statement:

DIVISION.	SHRIMP AND PRAWN PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	19,080,000	100	$494,000	100
Gulf of Mexico division	12,561,000	66	271,000	55
Atlantic coast division	5,708,000	30	142,000	29
Pacific coast division	504,000	3	53,000	11
Mississippi River division	306,000	2	28,000	6

In 1880 the shrimp and prawn product was 3,214,000 pounds, valued at $209,000; but in 1888 the product from the Gulf of Mexico and the Pacific coast divisions combined amounted to 13,398,000 pounds, which is slightly in excess of the output of these two divisions in 1908. The price in 1888 was considerably lower than at present, for the value of the product of that year was $277,000, compared with $324,000 reported from the same divisions in 1908. Statistics of the product for the entire United States are not available for any one year prior to 1908, but comparative data are presented for the several divisions for various years in the following tabular statement:

DIVISION AND YEAR.	SHRIMP AND PRAWN PRODUCT.	
	Quantity (pounds).	Value.
Gulf of Mexico division:		
1908	12,561,000	$271,000
1902	12,367,000	199,000
1897	6,791,000	117,000
1890	7,451,000	109,000
1888	8,491,000	135,000
Atlantic coast division:		
1908	5,708,000	142,000
1902–1904	3,825,000	91,000
1889–1891	756,000	38,000
Pacific coast division:		
1908	504,000	53,000
1904	2,262,000	98,000
1899	4,067,000	113,000
1895	5,461,000	165,000
1892	5,315,000	242,000
1888	4,807,000	142,000
Mississippi River division:		
1908	306,000	28,000
1899	200,000	16,000
1894	91,000	5,600

In the Gulf of Mexico division a considerable portion of the catch is consumed by the canners and packers. In 1908, 3,269,000 pounds were canned, 342,000 pounds dried, and 79,000 pounds pickled. On the Pacific coast, in the flourishing days of the shrimp industry, the entire catch was taken by Chinese, and large quantities of dried shrimp were exported to China. The assiduity of the fishermen of this race is held responsible for the great decrease in the Pacific coast product noted above.

The bulk of the catch was made by shore and boat fisheries, except in Mississippi, where vessel fisheries took over 80 per cent of the product. Seines took more than 90 per cent of the catch, while 9 per cent of the total quantity was taken with other nets and less than 1 per cent with beam trawls and pots and traps.

Skins.—The fur skins reported in connection with the census of fisheries are those of the muskrat, mink, and otter. Although the value of such products is not large, compared with that of most of the distinctively fishery products, yet these industries give employment to a large number of men and are of considerable local importance. The aggregate value of the skins of these aquatic fur mammals reported was $255,000, of which muskrats contributed $136,000, or 53 per cent; mink $89,000, or 35 per cent; and otter $30,000, or 12 per cent.

The value of fur skins reported is given, by states, in the following tabular statement:

STATE.	VALUE OF FUR SKINS: 1908.			
	Total.	Muskrat.	Mink.	Otter.
United States	$255,000	$136,000	$89,000	$30,000
Louisiana	98,000	16,000	77,000	4,700
Maryland	50,000	50,000	.....	(1)
Delaware	24,000	24,000	.....	.....
Florida	21,000	.....	.....	21,000
Illinois	20,000	14,000	6,000	.....
Missouri	15,000	12,000	3,100	(1)
Ohio	14,000	14,000	400	.....
Georgia	3,600	.....	.....	3,600
New Jersey	2,300	2,300	.....	.....
Minnesota	2,300	1,200	1,100	.....
North Carolina	1,500	800	500	100
Iowa	1,200	800	400	.....
All other states[2]	1,800	1,300	400	100

[1] Less than $100.
[2] Includes Wisconsin, Michigan, Virginia, Arkansas, New York, and Texas.

The trapping of muskrats was reported in 14 states, and the number and value of the skins taken were as follows:

STATE.	MUSKRAT SKINS: 1908.			
	Quantity.		Value.	
	Number.	Per cent distribution.	Amount.	Per cent distribution.
United States	457,000	100	$136,000	100
Maryland	115,000	25	50,000	37
Delaware	76,000	17	[1] 24,000	18
Louisiana	119,000	26	16,000	12
Illinois	50,000	11	14,000	10
Ohio	41,000	9	14,000	10
Missouri	29,000	6	12,000	9
New Jersey	9,100	2	2,300	2
Minnesota	5,000	1	1,200	1
All other states[2]	11,000	2	2,900	2

[1] Includes $3,800, the value of 110,000 pounds of muskrat meat.
[2] Includes North Carolina, Iowa, Wisconsin, Michigan, Virginia, and New York.

More than one-half of the value reported represented the product of the contiguous states of Delaware and Maryland. Although muskrats are trapped for the skins primarily, the meat also is marketed to a considerable extent. The sale of 110,000 pounds of muskrat meat was reported from Delaware, the value of which, $3,800, has been included in the foregoing statement.

While ten states reported the trapping of mink, almost eight-ninths of the product was from Louisiana, as shown by the following tabular statement:

STATE.	MINK SKINS: 1908.	
	Number.	Value.
United States	45,000	$89,000
Louisiana	39,000	77,000
Illinois	3,800	6,000
Missouri	800	3,100
Minnesota	300	1,100
All other states[1]	600	1,700

[1] Includes North Carolina, Iowa, Wisconsin, Ohio, Texas, and Virginia.

The product of otter skins, by states, was as follows:

STATE.	OTTER SKINS: 1908.	
	Number.	Value.
United States	3,800	$30,000
Florida	2,900	21,000
Louisiana	600	4,700
Georgia	400	3,600
All other states.[1]	(2)	300

[1] Includes North Carolina, Arkansas, Missouri, Virginia, and Maryland.
[2] Less than 100 skins.

Snappers (*Lutianidæ*).—The red snapper (*Lutianus aya*), which is the most important of the snappers, is a large fish, bright red in color, and is found from Long Island southward, but in greatest abundance along the coasts of the Gulf states. The gray snapper, or mangrove snapper, also known in Florida as "lawyer," is a common species. The mutton snapper, dog snapper, or jocu, the schoolmaster, or caji, the silk snapper, and the lane snapper are all fishes of food value common in the West Indies and southern Florida.

The name is locally applied to other kinds of fish. The red grouper is called "brown snapper" and "red-bellied snapper" in Florida. The rosefish is called "snapper" on the North Atlantic coast; the bluefish is called "snapper" and "blue snapper" on the New England coast; and the cod that live near the shore away from the ledges are called "black snappers."

The statistics of the catch of snappers as reported in 1908 are given in the following tabular statement:

STATE.	SNAPPER PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	13,854,000	100	$651,000	100
Florida	8,061,000	58	449,000	69
Alabama	2,635,000	19	92,000	14
Texas	2,252,000	16	79,000	12
Georgia	880,000	6	30,000	5
South Carolina	14,000	(1)	400	(1)
North Carolina	13,000	(1)	300	(1)

[1] Less than 1 per cent.

The red-snapper product of Florida, Alabama, and Texas contributed over 98 per cent of the total value of the snappers caught in these states. The catch in the other states comprised 13,000 pounds, valued at $300, from North Carolina, and 1,000 pounds, valued at $30, from South Carolina.

Comparative statistics of the entire snapper product for 1908 and former years, so far as data are available, are given in the following tabular statement:

YEAR.	SNAPPER PRODUCT.	
	Quantity (pounds).	Value.
1908	13,854,000	$651,000
1902	14,165,000	430,000
1897	6,313,000	206,000
1888	3,529,000	103,000
1880	1,485,000	67,000

The statistics for 1902 show 13,764,000 pounds of red snappers, valued at $418,000, and 401,000 pounds of all other snappers, valued at $11,000. In reports prior to 1902 no division is shown, and all snappers except the red were probably included under the head of miscellaneous fish.

The chief fishing ground is off the west coast of Florida. As these fish habitually feed along the ground in from 10 to 40 fathoms of water, lines are the only form of apparatus used in their capture.

Sponge.—The sponge which is of commercial value is found off the west coast of Florida, and the statistics in regard thereto are given in connection with those for the Florida fisheries on pages 103 and 104 of this report. The value of the sponge catch in 1908 was $545,000.

Squeteague.—The common weakfish, or squeteague (*Cynoscion regalis*), is found in abundance along the Atlantic coast from Cape Cod to Florida. It is known as "drummer" about Cape Cod; "yellowfin" about Buzzards Bay; "weakfish" in New York and New Jersey; "bluefish" in Delaware and Virginia; "gray trout," "sun trout," "shad trout," "sea trout," and "salt-water trout" in the Middle and South Atlantic states; and "squeteague," "squit," "chickwit," etc., in various places. It averages about 2½ pounds in weight, but some individuals attain a weight of 30 pounds. The spotted squeteague (*C. nebulosus*) is found from New Jersey to Texas, and is somewhat larger than the other species. The California "bluefish" (*C. parvipinnis*) and the great "white sea bass" of California (*C. nobilis*) are other species of weakfish.

In 1908 squeteague were taken in all the Atlantic coast states south of Massachusetts, in all the Gulf states, and in California on the Pacific coast; but almost one-third of the catch was made off the New Jersey shores and along Delaware Bay. The entire product amounted to 49,869,000 pounds, and was valued at $1,776,000. Squeteague ranked seventh in value among all fishery products. Nearly the entire amount was sold fresh, the small quantities salted in North Carolina and Florida amounting to less than 1 per cent of the total product. The following tabular statement shows the statistics of the catch, by states ranked according to the value of their product:

STATE.	SQUETEAGUE PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	49,869,000	100	$1,776,000	100
New York	11,151,000	22	451,000	25
New Jersey	11,814,000	24	342,000	19
North Carolina	4,635,000	9	206,000	12
Florida	4,864,000	10	196,000	11
Virginia	4,491,000	9	139,000	8
Louisiana	1,103,000	2	82,000	5
Rhode Island	2,427,000	5	72,000	4
Massachusetts	1,971,000	4	58,000	3
Maryland	1,191,000	2	47,000	3
Texas	1,055,000	2	46,000	3
California	1,337,000	3	42,000	2
Delaware	2,590,000	5	29,000	2
Mississippi	517,000	1	28,000	2
Georgia	140,000	(1)	12,000	1
Alabama	208,000	(1)	10,000	1
South Carolina	183,000	(1)	8,700	(1)
Connecticut	180,000	(1)	6,800	(1)
Pennsylvania	12,000	(1)	200	(1)

[1] Less than 1 per cent.

Comparative figures for those years for which statistics are available are given in the following tabular statement:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	49,869,000	$1,776,000
1902–1904	43,510,000	1,242,000
1895–1898	31,971,000	733,000
1888–89	13,044,000	438,000

Both the quantity and the value have increased since 1888–89, but except during the period from 1888–89 to 1895–1898 the rate of increase has been greater for the value than for the quantity.

Squeteague fishing begins in the latter part of April and lasts from six to eight weeks, until the schools begin to move off into deeper and cooler waters. Nearly one-half of the entire catch in 1908 was made in pound nets, trap nets, and weirs, and one-third in seines. The following tabular statement gives the statistics of the catch, by apparatus of capture, for 1908:

KIND OF APPARATUS.	SQUETEAGUE PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	49,869,000	100	$1,776,000	100
Pound nets, trap nets, and weirs	24,135,000	48	807,000	45
Seines	16,573,000	33	581,000	33
Gill nets	6,006,000	12	249,000	14
Lines	2,035,000	4	94,000	5
All other kinds	1,115,000	2	45,000	3

Sturgeons (*Acipenseridæ*).—Sturgeons are found on the Atlantic and Pacific coasts and in many inland waters. The various species are known as "lake sturgeon," "white sturgeon," "shovelnose," etc. The Atlantic sturgeon attains a length of from 5 to 12 feet and a weight of from 400 to 500 pounds. They are sold fresh, pickled, and smoked, for food; caviar is manufactured from their eggs; the skin is made into leather; and the sounds are used in the manufacture of glue and isinglass. A valuable oil is sometimes obtained from the parts not used for food, and the refuse is used for fertilizing purposes.

These fishes were taken in 31 states and with the possible exception of catfish and carp were the most widely distributed fishes reported. The aggregate catch was 2,072,000 pounds, valued at $157,000. To these figures should be added those for the sturgeon caviar product which was reported separately and has been included in the statistics of caviar. The sturgeon caviar product was, in many cases, reported in conjunction with paddlefish eggs or caviar. For this reason the sturgeon caviar can not, in all cases, be segregated from that of the paddlefish. The paddlefish (*Polyodon spathula*), locally known as "spoonbill," "duckbill cat," and "shovelfish," is found in all the larger streams of the Mississippi Valley. It is a poor food fish, although the roe is used extensively for caviar. The production of sturgeon and paddlefish caviar was 79,000 pounds, valued at $79,000, of which 69,000 pounds, valued at $70,000, was from states reporting a catch of sturgeon and comprised, in the main, sturgeon caviar. The following tabular statement gives the statistics of the sturgeon catch by states and of the caviar product for the same states, which are ranked according to the combined value of these products:

STATE.	STURGEON AND CAVIAR PRODUCT: 1908.				
	Total value.	Sturgeon.		Sturgeon caviar.[1]	
		Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	$228,000	2,072,000	$157,000	69,000	$70,000
Virginia	49,000	183,000	22,000	22,000	27,000
New Jersey	23,000	132,000	13,000	9,700	10,000
New York	23,000	105,000	16,000	8,100	7,500
Iowa	16,000	215,000	11,000	8,600	5,300
Maryland	16,000	37,000	5,000	8,100	11,000
Minnesota	11,000	164,000	11,000	100	100
Wisconsin	8,800	112,000	8,200	900	600
Michigan	8,000	57,000	7,100	1,200	900
Illinois	7,300	178,000	6,500	1,300	800
Indiana	7,200	52,000	6,800	300	400
Delaware	7,100	31,000	3,200	3,100	3,900
Georgia	7,000	100,000	7,000	.....	.....
Oregon	6,800	114,000	6,800	.....	.....
North Carolina	6,400	62,000	6,400	.....	.....
Washington	6,000	185,000	6,000	.....	.....
Florida	5,300	62,000	5,000	200	200
Missouri	5,100	132,000	5,000	300	100
Pennsylvania	4,300	16,000	3,700	500	500
Kentucky	2,400	60,000	2,400	.....	.....
Maine	1,200	8,200	1,000	100	100
All other states[2]	5,500	67,000	3,800	4,300	1,700

[1] A small quantity of caviar from species other than sturgeon may be included.
[2] Includes California, Nebraska, Ohio, Alabama, Arkansas, Connecticut, Kansas, Massachusetts, South Dakota, Tennessee, and West Virginia.

The following tabular statement, giving the distribution of the sturgeon catch by geographic divisions, shows that in quantity the product of the fisheries of the Mississippi River and its tributaries ranked first in 1908, while the catch of the Atlantic coast fisheries, more particularly that of the Middle Atlantic states, was of the greatest value.

DIVISION AND STATE GROUP.	STURGEON PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	2,072,000	100	$157,000	100
Atlantic coast division	649,000	31	69,000	44
Middle Atlantic states	418,000	20	49,000	31
South Atlantic states	217,000	10	18,000	11
New England states	14,000	1	1,500	1
Mississippi River division	845,000	41	39,000	24
Great Lakes division	262,000	13	36,000	23
Pacific coast division	309,000	15	13,000	9
Gulf of Mexico division	7,200	1	700	1

Returns are not available for the country as a whole for a series of years, but figures for the various geographic divisions and groups of states are as follows:

STATE GROUP OR DIVISION AND YEAR.	STURGEON PRODUCT.	
	Quantity (pounds).	Value.
New England states:		
1908	14,000	$1,500
1905	21,000	1,600
1902	18,000	1,300
1888	21,000	800
1888	4,500	200
Middle Atlantic states:		
1908	418,000	49,000
1904	677,000	42,000
1897	2,308,000	84,000
1891	2,636,000	66,000
South Atlantic states:		
1908	217,000	18,000
1902	218,000	11,000
1897	930,000	25,000
1880	488,000	10,000
Gulf of Mexico division:		
1908	7,200	700
1902	467,000	14,000
1897	32,000	1,300
Great Lakes division:		
1908	262,000	36,000
1903	619,000	40,000
1899	1,062,000	51,000
1883	1,427,000	50,000
1880	2,799,000	106,000
Mississippi River division:		
1908	845,000	39,000
1899	946,000	27,000
1894	2,250,000	63,000
Pacific coast division:		
1908	309,000	13,000
1904	138,000	4,300
1899	295,000	15,000
1895	3,140,000	80,000
1892	3,775,000	56,000

The following tabular statement, which shows the distribution of the catch by apparatus of capture, indicates that various appliances were used in taking the product:

KIND OF APPARATUS.	STURGEON PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	2,072,000	100	$157,000	100
Gill nets	775,000	37	69,000	44
Pound nets, trap nets, and weirs	344,000	17	32,000	20
Seines	327,000	16	18,000	11
Lines	187,000	9	17,000	11
Trammel nets	336,000	16	16,000	10
All other	103,000	5	4,600	3

Whale products.—The value of the whale products reported amounted to $497,000. These products consisted of 63,000 pounds of whalebone, valued at $215,000, and 529,000 gallons of oil, valued at $282,000. Of the latter, 452,000 gallons, valued at $252,000, was sperm oil, and 76,000 gallons, valued at $30,000, whale oil. In 1908 the entire amount from the Pacific coast was reported from the whaling fleet sailing from San Francisco, although in years past a small amount of whale products has been reported from Washington. The home port of the Atlantic whaling fleet, with the exception of a few vessels from Provincetown, is New Bedford, Mass. In 1908 nine whales were stranded on Ponce Park Beach, Fla., from which the oil was extracted; one was caught off Cape Lookout, N. C.; and a number were taken by two vessels sailing from Connecticut ports.

In the following tabular statement, which shows the quantity and value of whale products in 1908, the figures for Florida, North Carolina, and Connecticut are combined under the head "All other states:"

DIVISION AND STATE.	WHALE PRODUCTS: 1908.						
	Total value.	Whalebone.			Whale oil.		
		Quantity (pounds).	Value.		Quantity (gallons).	Value.	
			Amount.	Per cent distribution.		Amount.	Per cent distribution.
United States	$497,000	63,000	$215,000	100	529,000	$282,000	100
Atlantic coast division	365,000	31,000	97,000	45	504,000	269,000	95
Massachusetts	336,000	30,000	89,000	41	462,000	247,000	88
All other states	30,000	1,900	7,600	4	42,000	22,000	8
Pacific coast division	132,000	32,000	119,000	55	24,000	13,000	5

No statistics are available for the country as a whole between 1888 and 1908, but by combining the Pacific coast statistics for 1899 with those of the New England states for 1898, and making a similar combination for 1904 and 1905, comparative data are secured sufficient to indicate the general trend of the whaling industry.

The following statement giving the value of the whale products for specified years shows that there has been a gradual decline:

1908	$497,000
1904–5	873,000
1898–99	722,000
1889	1,404,000
1888	1,065,000
1880	2,324,000

For the Pacific coast states the period from 1890–1892 was the high-water mark of the whale fisheries. The statistics for the Pacific whaling fleet for certain years from 1880 to 1908 are given in the following tabular statement:

YEAR.	WHALE PRODUCTS TAKEN BY PACIFIC FLEET.				
	Total value.	Whalebone.		Whale oil.	
		Quantity (pounds).	Value.	Quantity (gallons).	Value.
1908	$132,000	32,000	$119,000	24,000	$13,000
1904	434,000	95,000	415,000	43,000	18,000
1899	457,000	207,000	436,000	70,000	20,000
1895	307,000	99,000	287,000	73,000	20,000
1892	999,000	197,000	937,000	210,000	62,000
1891	1,190,000	224,000	1,119,000	235,000	71,000
1890	786,000	170,000	680,000	298,000	105,000
1889	582,000	120,000	520,000	201,000	62,000
1888	691,000	197,000	586,000	292,000	105,000
1880	202,000	(1)	(2)	(1)	(2)

[1] Not reported. [2] Not reported separately.

The comparative statistics of the catch of the Atlantic fleet are as follows:

YEAR.	WHALE PRODUCTS TAKEN BY ATLANTIC FLEET.				
	Total value.	Whalebone.		Whale oil.	
		Quantity (pounds).	Value.	Quantity (gallons).	Value.
1908	$365,000	31,000	$97,000	504,000	$269,000
1905	440,000	56,000	193,000	534,000	247,000
1902	383,000	19,000	90,000	685,000	293,000
1898	265,000	27,000	66,000	416,000	199,000
1889	821,000	98,000	320,000	864,000	501,000
1888	680,000	125,000	341,000	646,000	339,000
1887	1,034,000	225,000	569,000	930,000	465,000
1880	2,122,000	(1)	(2)	(1)	(2)

[1] Not reported. [2] Not reported separately.

The average value per gallon of the product of whale oil in 1908, on both the Atlantic and Pacific coasts, was the highest reported at any time. Sperm oil contributed the greater portion of the value reported for whale oil, and in 1908 was valued at 50 per cent more a gallon than other kinds of whale oil. It is derived exclusively from the sperm whale and is used chiefly as a lubricator. In previous reports sperm oil was not segregated from other kinds of whale oil.

Whalebone, or baleen, is chiefly used by whip makers, dressmakers, and corset manufacturers. It varies in color and fineness and is received from the vessels in lengths varying from 1 to 15 feet.

Ambergris, another product of the whale, while very valuable in the preparation of fine perfumery, is a very uncertain product. It is sometimes found floating out at sea and sometimes along the shore. None was reported in 1908. In 1905, 94 pounds, valued at $17,000, were reported from Massachusetts, and in 1889, 37 pounds, valued at $7,750. In 1878 a vessel of New Bedford reported 136 pounds that sold for $23,000, and in 1858 another New Bedford vessel secured 600 pounds of ambergris, valued at $10,500. The total quantity reported by the American whaling fleet from 1836 to 1880 was 1,668 pounds.

Whitefish (Coregonus).—Whitefishes are among the most important fresh-water fishes of America. The common whitefish (*C. clupeaformis*) is the most valuable species of all, although the others are highly esteemed as food. It is found in the Great Lakes region and is known as "humpback," "bowback," and "highback" whitefish; it is known also as "Otsego bass" in the neighborhood of Otsego Lake, N. Y. Other species of economic importance are the Rocky Mountain whitefish (*C. williamsoni*) and the Menominee whitefish (*C. quadrilateralis*), also known locally as "round whitefish," "frostfish," "shadwaiter," "pilot fish," "chivey," "blackback," etc. *Coregonus albus* is the common whitefish of Lake Erie.

There are included under this name the bluefin (*Leucichthys nigripinnis*) and the longjaw (*L. prognathus*), commercially classed with the whitefishes, although they belong to the same genus as the lake herring.

The name is locally applied to the bluefish on the Hudson; to the menhaden in western Connecticut; to the tilefish in California; and to the beluga by whalers.

The whitefish catch is confined to the Great Lakes, Lake of the Woods, and Rainy Lake. In value it ranked fourth among the fishery products in those waters with a catch in 1908 valued at $524,000, which is less than 1 per cent of the total value of the United States fishery product, but 14 per cent of the value of the product of the Great Lakes. Every state bordering on the Great Lakes shared in the catch of whitefish, but nearly two-thirds of the total value was contributed by the fish reported from Michigan. In that state whitefish ranked second in value, representing 23 per cent of the total value.

The distribution of the catch, by states ranked according to the value of their product, is given in the following tabular statement:

STATE.	WHITEFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
United States	7,722,000	100	$524,000	100
Michigan	4,772,000	62	339,000	65
Ohio	732,000	9	60,000	11
Wisconsin	1,274,000	17	56,000	11
Pennsylvania	455,000	6	37,000	7
New York	179,000	2	15,000	3
Minnesota	242,000	3	11,000	2
Indiana	52,000	1	5,000	1
Illinois	14,000	(1)	800	(1)

[1] Less than 1 per cent.

In addition to the whitefish product included in the above statement, there were reported 2,300 pounds of caviar prepared from whitefish roe, valued at $200, which are included in the statistics for caviar.

The distribution of the catch by fishing grounds was as follows:

FISHING GROUND.	WHITEFISH PRODUCT: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	7,722,000	100	$324,000	100
Lake Michigan	3,553,000	46	241,000	46
Lake Erie	1,504,000	19	122,000	23
Lake Huron [1]	1,409,000	19	91,000	17
Lake Superior	1,140,000	15	65,000	12
Lake Ontario	56,000	1	5,400	1

[1] Includes Lake St. Clair.

Nearly all the whitefish product was marketed fresh, but 342,000 pounds, valued at $17,000, were reported salted and 15,000 pounds, valued at $1,300, were smoked. The combined value of the salted and smoked product formed only 3 per cent of the total value of the catch.

Although in some cases the returns specified the allied varieties as Menominee, longjaw, etc., in the majority of cases the catch was reported as whitefish without segregation, and hence, the returns can not be depended upon as showing the entire catch of specific varieties. For 5,680,000 pounds of whitefish, valued at $447,000, or 85 per cent of the total value, the variety was specified.

The catches of the longjaw, bluefin, and Menominee whitefishes reported separately (chiefly from Michigan and Wisconsin, with small quantities from Minnesota and Illinois), were as follows:

STATE.	WHITEFISH PRODUCT: 1908.					
	Longjaw.		Bluefin.		Menominee.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	1,028,000	$39,000	712,000	$29,000	302,000	$9,600
Illinois	1,100	(1)	200	(1)	300	(1)
Michigan	870,000	36,000	.....	.....	149,000	5,200
Minnesota	35,000	700	1,400	(1)	1,000	100
Wisconsin	121,000	2,300	710,000	29,000	151,000	3,400

[1] Less than $100.

The yield of whitefish in 1908 shows a continuation of the recovery shown in 1903 from the downward movement which had culminated in 1899, yet the catch was little more than one-third as heavy as in 1880. The statistics for those years for which figures are available are given in the following tabular statement:

YEAR.	WHITEFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	7,722,000	$324,000
1903	7,520,000	338,000
1899	6,662,852	339,000
1893	10,327,000	394,000
1889	15,326,000	692,000
1885	18,344,000	(1)
1880	21,464,000	(1)

[1] Not reported.

Gill nets, pound nets, and trap nets took nearly all of the catch. The proportion of the total value credited to gill nets was 60 per cent and that credited to pound and trap nets 39 per cent; while fyke and hoop nets, seines, and lines took less than 1 per cent of the total.

CHAPTER VII.

FISHERIES, BY STATES.

ALABAMA.

The state of Alabama has the shortest coast line of any of the states bordering on the Gulf of Mexico, and its fishing interests, whether measured by the number of fishermen, capital invested, or products, are the least of any of the Gulf states. Among the states engaged in fishing in 1908, Alabama ranked twenty-fourth in the value of all products, second in the red snapper fisheries, and sixteenth in the oyster industry. The oyster industry was by far the most important fishing industry of the state and contributed nearly 45 per cent to the total value of all fishery products in 1908. The other fisheries with products exceeding $10,000 in value for the year were, in the order of value of products, the red snapper, mullet, catfish, buffalo fish, squeteague, and fresh-water drum fisheries. The chief fishing grounds are Mobile Bay, Mississippi Sound, and the Gulf of Mexico; commercial fishing is also conducted in the Mobile, Alabama, and Tombigbee Rivers. All of the foregoing together constitute the Gulf of Mexico district. The only other fishing ground of the state is the Tennessee River.

The following statement shows the principal items of the Alabama fisheries in 1908:

Number of persons employed	972
Capital:	
Vessels and boats, including outfit	$164,000
Apparatus of capture	23,000
Shore and accessory property and cash	82,000
Value of products	387,000

Comparison with previous canvasses.—The rapid growth of this industry in Alabama during the past 20 years is shown in the following tabular statement:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	969	$187,000	$164,000	$23,000	10,665,000	$387,000
1902	714	136,000	127,000	8,200	9,351,000	267,000
1897	593	73,000	64,000	9,200	4,609,000	134,000
1889	496	58,000	47,000	12,000	4,560,000	147,000

The increase has been continuous except in the cases of the value of the product from 1889 to 1897 and the investment in apparatus from 1889 to 1902. The gain in the latter from 1902 to 1908 was due largely to the increased use of trammel nets.

Persons employed.—The distribution of the persons employed in 1908 is given below:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	972	[1] 747	4	221	$100,000	$5,200	[2] $95,000
Gulf of Mexico district	895	670	4	221	100,000	5,200	95,000
Vessel fisheries	234	41	4	189	86,000	5,200	81,000
Transporting vessels	11	4	.....	7	3,000	.....	3,000
Shore and boat fisheries	647	625	.....	22	8,800	.....	8,800
Shoresmen	3	.....	.....	3	2,300	.....	2,300
Tennessee River district (shore and boat fisheries)	77	77	.....	.....	.....	.....	.....

[1] Exclusive of seven proprietors not fishing.
[2] Includes provisions furnished to the value of $21,000.

Nearly all of the fishermen were employed in the Gulf district, only 77 fishing on the Tennessee River. It will be noted that all of the latter were independent fishermen. Nearly all of the fishermen engaged in the shore and boat fisheries of the Gulf district were also independent fishermen, only 22 wage-earners being employed by the 625 proprietors and independent fishermen of the shore and boat fisheries of that district. At least 600 of the persons employed in the shore and boat fisheries of the Gulf district and at least 677, or nearly 70 per cent, of the 972 persons employed in the fishing industry of the state must have been independent fishermen.

Of the persons employed in the Gulf district, more than 72 per cent were in the shore and boat fisheries. In 1908 the number of persons employed in vessel fisheries was 234, and on transporting vessels 11, as compared with 254 and 19, respectively, in 1902. The number of men engaged in the shore and boat fisheries of the Gulf and its immediate tributaries was 647 in 1908, compared with 441 in 1902. There has thus been a small decrease in the number of men employed in the vessel fisheries and a large increase in the number employed in the shore and boat fisheries.

Equipment and other capital.—The tabular statement following gives statistics of the fishing equipment comprised in vessels, boats, and apparatus of capture, and of other capital.

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Gulf of Mexico district.	Tennessee River district.
Total	$269,000	$262,000	$6,900
Vessels, including outfit	130,000	130,000	.....
Fishing (sail)	124,000	124,000	.....
Vessels	94,000	94,000	.....
Outfit	30,000	30,000	.....
Transporting (sail)	5,800	5,800	.....
Vessels	5,000	5,000	.....
Outfit	800	800	.....
Boats	34,000	33,000	1,400
Steam and motor	7,000	7,000	.....
Sail	17,000	17,000	.....
Row	10,000	8,600	1,400
Apparatus of capture	23,000	19,000	3,800
Vessel fisheries	4,300	4,300	.....
Shore and boat fisheries	19,000	15,000	3,800
Shore and accessory property	65,000	63,000	1,700
Cash	17,000	17,000	.....

In the following tabular statement the number and tonnage of the vessels and the number of the boats used in the fisheries of Alabama in 1908 are shown:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908. Total.	Gulf of Mexico district.	Tennessee River district.
Vessels, number	61	61	.....
Fishing (sail):			
Number	57	57	.....
Tonnage	900	900	.....
Transporting (sail):			
Number	4	4	.....
Tonnage	35	35	.....
Boats, number	670	581	89
Steam and motor	16	16	.....
Sail	115	115	.....
Row	539	450	89

The number of the various kinds of apparatus used was as follows:

KIND.	APPARATUS OF CAPTURE: 1908. Total.	Distributed by districts. Gulf of Mexico district.	Tennessee River district.	Distribution by class of fisheries. Vessel fisheries.	Shore and boat fisheries.
Fyke and hoop nets	891	235	656	.....	891
Gill nets	1	1	.....	1	.....
Harpoons, spears, etc	57	57	.....	22	35
Seines	9	6	.....	6	3
Trammel nets	200	200	.....	35	165
Turtle nets	30	30	.....	.....	30
Wooden traps	27	.....	27	.....	27

All of the sail craft and motor boats were employed in the fisheries of the Gulf coast, rowboats alone being reported for the Tennessee River. The apparatus used in the Tennessee River fisheries was confined to fyke and hoop nets, wooden traps, and lines.

The total investment in fishing and transporting vessels and their outfit was $130,000, while the investment in boats aggregated $34,000, of which all but $1,400 pertained to the shore and boat fisheries of the Gulf of Mexico district. The number of vessels reported as engaged in fishing and transporting had decreased by 16 since 1902, but their value, including the value of the outfit, increased by $14,000. The number of boats used in the fisheries of the Gulf coast and the rivers immediately tributary to the Gulf increased by 264, and their value increased by $21,000.

The investment in apparatus of capture for the shore and boat fisheries of the Gulf district largely exceeded that for the vessel fisheries, but the combined investment in floating craft and apparatus of capture by the vessel fisheries was $134,000, while for the shore and boat fisheries of the Gulf district it was only $47,000. Wooden traps were reported as in use only in the fisheries of the Tennessee River, which also show the majority of fyke and hoop nets. The shore and boat fisheries of the Gulf district employed the largest number of trammel nets. The value of fishing apparatus on vessels and boats fishing in the Gulf and its immediate tributaries was reported as $8,200 in 1902.

In the fisheries of the Gulf district 62 per cent of the capital was invested in floating craft and 7 per cent in apparatus of capture, while in the fisheries of the Tennessee River only 20 per cent was invested in floating craft and 55 per cent in apparatus of capture.

Products, by species.—The fishery products of the state were distributed by species and apparatus of capture as shown in the table on page 82. Oysters easily ranked first, with nearly 45 per cent of the total value. Red snapper, mullet, catfish, and buffalo fish followed in the order named.

Products, by fishing grounds.—The following tabular statement shows the distribution of the chief species by fishing grounds:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Gulf of Mexico district.	Tennessee River district.
Total	$387,000	$358,000	$29,000
Fish	206,000	177,000	29,000
Red snapper	92,000	92,000	.....
Mullet	33,000	33,000	.....
Catfish	17,000	9,600	7,200
Buffalo fish	11,000	7,600	3,200
Squeteague	10,000	10,000	.....
Drum, fresh-water	10,000	1,400	8,800
Channel bass	5,500	5,500	.....
Suckers	4,600	.....	4,600
All others	23,000	18,000	5,000
Oysters	173,000	173,000	.....
Crabs and shrimp	7,300	7,300	.....
Terrapin and turtles	600	600	.....

The fisheries of the Gulf district are credited with 93 per cent of the total catch. In that district the value of the products was nearly evenly divided between fish and oysters, while in the Tennessee River district fish constituted the entire product. The principal species taken in the Gulf district were, in the order of value, oysters, red snapper, mullet, and squeteague. The first two named formed 74 per cent of the total catch of the Gulf district. The chief species caught in the Tennessee River, in the order of value, were freshwater drum, catfish, suckers, and buffalo fish.

Products, by class of fisheries.—The distribution of products between the vessel fisheries and the shore and boat fisheries is shown in the following tabular statement:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$387,000	$144,000	$244,000
Fish	206,000	109,000	97,000
Red snapper	92,000	92,000	.....
Mullet	33,000	4,200	29,000
Catfish	17,000	200	17,000
Buffalo fish	11,000	.....	11,000
Squeteague	10,000	2,700	7,600
Drum, fresh-water	10,000	.....	10,000
Channel bass	5,500	1,800	3,700
Suckers	4,600	.....	4,600
All other	23,000	8,000	15,000
Oysters	173,000	33,000	140,000
Crabs and shrimp	7,300	1,200	6,100
Terrapin and turtles	600	100	600

The fish products proper amounted in the aggregate to 6,232,000 pounds, or 58 per cent of the total weight of fishery products, and were valued at $206,000, or 53 per cent of the total value. The value of the fish products constituted 40 per cent of the total in the case of the shore and boat fisheries, and 76 per cent in the case of the vessel fisheries. The products of the vessel fisheries were chiefly red snapper and oysters, all other products amounting to only 13 per cent.

The combined catch of the shore and boat fisheries aggregated 6,312,000 pounds, having a value of $244,000. Of this catch, 93 per cent in quantity and 88 per cent in value was from the Gulf district.

Of the products of the shore and boat fisheries for the state, the oyster catch formed 57 per cent in value.

Products, by apparatus of capture.—The product caught by means of tongs, representing the oyster catch, contributed a larger percentage of the total products, as measured by value, than the product caught by any other class of apparatus, and formed nearly two-thirds of the shore and boat products of the Gulf district; while the catch of lines contributed more than two-thirds of the total for the vessel fisheries, and that of fyke nets nearly one-half of the total for the Tennessee River. Seines were used to a comparatively small extent, and gill nets still less and only in the vessel fisheries. The catch in wooden traps, all in the Tennessee River, was a substantial one, aggregating 107,000 pounds. The following tabular statement shows the value and distribution of the catch, by the various kinds of apparatus:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908. Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$387,000	$144,000	$244,000
Tongs	173,000	33,000	140,000
Lines	120,000	97,000	23,000
Trammel nets	58,000	9,300	49,000
Fyke nets	24,000	.....	24,000
Wooden traps	6,100	.....	6,100
Seines	4,400	2,900	1,500
Gill nets	1,200	1,200	.....
Spears, etc	700	500	300
Minor apparatus	600	.....	600

Oysters.—The product of the oyster fishery was 590,000 bushels, valued at $173,000, which was 45 per cent of the total value of all products. The oyster catch included 54,000 bushels of seed oysters, having a value of $4,100, and 536,000 bushels of market oysters, having a value of $169,000. All of the seed oysters were from public areas, and of the market oysters 12 per cent were from private areas and 88 per cent from public areas. The value of the oysters from private areas formed 22 per cent of the total value of market oysters and their average value was 59 cents per bushel, compared with 28 cents per bushel for oysters from public areas. The oyster product of 1908 shows a large increase over the figures for 1902, in which year the total product reported amounted to 347,000 bushels, valued at $120,000. The increase in quantity of oysters, exclusive of seed oysters, was 189,000 bushels, or 54 per cent, and the increase in value $49,000, or 41 per cent. The gain was confined almost entirely to the product from the public areas, the product from the private areas increasing only 17 per cent in quantity and decreasing 5 per cent in value. Oysters can be taken from the public reefs at any time, the demand alone governing the fishermen in this particular. Tongs are the only apparatus allowed for taking oysters, and the quantity of oysters permitted per single boat is limited to 3,500 bushels per week. No oysters measuring less than 2½ inches from hinge to mouth can be taken.

Red snapper.—The red snapper was the most important of the kinds of fish caught, and in 1908 constituted nearly one-fourth of all products both in quantity and in value. It is a deep-sea fish, the fishing being done with lines in from 20 to 75 fathoms of water, and the catch figures solely in the vessel fisheries. This fishery centers at Mobile, and the vessels go as far east as Tampa, Fla., and as far west as the Mexican coast.

Mullet.—The mullet ranked next in importance in 1908, and formed 16 per cent of the total quantity of

the products, although its value formed only 9 per cent of the total value. It is chiefly a product of the shore and boat fisheries, and is caught almost entirely in trammel nets, less than 4 per cent being caught in seines and gill nets in 1908.

Catfish.—The catfish ranked third in the order of value. The figures for this fish represent both the fresh-water and the salt-water varieties, and practically all of the catch was reported by the shore and boat fisheries. They are caught with a variety of apparatus—trammel nets, fyke nets, lines, seines, and traps.

Other products.—The buffalo fish, squeteague, and fresh-water drum were important products of about equal commercial value. The buffalo fish and the drum were caught in the Tennessee River and the fresh-water tributaries of the Gulf, while the squeteague was reported by both the shore and the vessel fisheries of the Gulf district. Hickory shad and carp were reported solely from the Tennessee River, and groupers and shrimp solely by the vessel fisheries. Black bass, sturgeon, and sunfish were taken in the shore and boat fisheries of the Gulf district as well as in the Tennessee River, and the remainder of the enumerated products were taken in the vessel fisheries and in the shore and boat fisheries of the Gulf of Mexico district.

ALABAMA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Trammel nets.		Fyke nets.		Wooden traps.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,665,000	$387,000	3,553,000	$120,000	2,271,000	$58,000	386,000	$24,000	107,000	$6,100	150,000	$4,400	4,198,000	$175,000
Fish:														
Black bass	36,000	3,500	9,300	900	25,000	2,500	1,200	100						
Bluefish	5,400	300			5,200	300					200	(2)		
Buffalo fish	226,000	11,000	31,000	1,800	56,000	1,100	128,000	7,200	10,000	600				
Carp, German	22,000	1,500	6,900	500			9,800	700	5,400	300				
Catfish	323,000	17,000	85,000	6,000	122,000	3,700	93,000	5,700	21,000	1,500	1,600	(2)		
Crappie	23,000	1,200	4,800	200	18,000	900	500	(2)						
Crevallé	5,200	100			4,700	100					500	(2)		
Croaker	72,000	1,400	4,100	100	55,000	1,100					10,000	200	3,000	100
Drum, fresh-water	151,000	10,000	40,000	2,800	1,700	100	79,000	5,500	32,000	1,900				
Drum, salt-water	151,000	6,800	13,000	700	120,000	5,300					12,000	500	6,000	300
Flounders	31,000	1,600			15,000	700					500	(2)	16,000	800
Grouper	394,000	3,900	394,000	3,900										
Hickory shad	59,000	2,700	16,000	800			22,000	1,100	20,000	800				
Mullet	1,656,000	33,000			1,594,000	32,000					56,000	1,100	5,000	100
Pompano	3,800	400	3,000	300	500	(2)					100	(2)	300	(2)
Sheepshead	24,000	1,200	200	(2)	16,000	800					1,700	100	6,000	300
Snapper, red	2,635,000	92,000	2,635,000	92,000										
Spanish mackerel	13,000	600			12,000	600					100	(2)	500	(2)
Spot	83,000	1,600	800	(2)	65,000	1,300					11,000	200	6,000	100
Squeteague	208,000	10,000	36,000	1,800	149,000	7,500					18,000	900	6,000	200
Sturgeon	6,200	300	5,500	200			700	(2)						
Suckers	80,000	4,600	12,000	700			50,000	3,000	19,000	900				
Sunfish and bream	9,100	600	4,700	300	2,300	100	2,100	200						
All other	17,000	300	6,500	100	8,600	200					1,500	(2)		
Crabs, hard	246,000	6,100	246,000	6,100										
Shrimp	37,000	1,200									37,000	1,200		
Terrapin	4,400	300									200	100	4,200	300
Turtles	13,000	300											13,000	300
Oysters, market, from public areas	[3] 3,314,000	132,000											[3] 3,314,000	132,000
Oysters, market, from private areas	[4] 440,000	37,000											[4] 440,000	37,000
Oysters, seed, from public areas	[5] 378,000	4,100											[5] 378,000	4,100

[1] Includes apparatus, with catch, as follows: Tongs, 4,132,000 pounds, valued at $173,000; gill nets, 35,000 pounds, valued at $1,200; spears, etc., 14,000 pounds, valued at $700; and minor apparatus, 17,000 pounds, valued at $600.
[2] Less than $100. [3] 473,000 bushels. [4] 63,000 bushels. [5] 54,000 bushels.

ARKANSAS.

The fishing grounds of Arkansas are principally the Mississippi River; its tributaries, the Arkansas, White, St. Francis, Ouachita, Black, and Cache Rivers; and Big Lake. Buffalo fish and catfish were the leading species of fish caught, while mussel shells, together with pearls and slugs, almost equaled in importance these two fish products combined. The following statement gives a general summary of the state's fisheries for 1908:

Number of persons employed	998
Capital:	
Vessels and boats, including outfit	$45,000
Apparatus of capture	31,000
Shore and accessory property	13,000
Value of products	207,000

Comparison with previous canvasses.—A comparison of the figures for 1908 with those for previous years shows a considerable increase in the fishery investments and products. The following tabular statement gives a summary of the fisheries of Arkansas for 1894, 1899, and 1908:

YEAR.	Persons employed.	Value of equipment and other capital.	PRODUCTS.	
			Quantity (pounds).	Value.
1908	998	$89,000	12,567,000	$207,000
1899	463	39,000	4,897,000	168,000
1894	750	37,000	3,876,000	116,000

It will be noticed that the rate of increase in the quantity of products between 1899 and 1908 is much higher than the rate for the value of products. This disproportion is in large part due to the development of the mussel fisheries, the products of which amounted to 8,060,000 pounds in 1908, whereas none at all were reported in 1899. While mussel shells add greatly to the total weight of the state's fishery products, they are of relatively small value. Exclusive of the mussel fishery, the quantity of products declined from 4,897,000 pounds to 4,507,000 pounds, and their value from $168,000 to $137,000.

Persons employed.—The data as to the persons employed in the fisheries of the state during 1908 are as follows:

CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	998	[1] 861	137	$20,000
Shore and boat fisheries	981	855	126	16,000
Transporting vessels	17	6	11	3,500

[1] Exclusive of three proprietors not fishing.

The industry is carried on largely by independent fishermen, only a few of the fishermen employing helpers. A large proportion of the 137 wage-earners were employed by a few proprietors on Big Lake, and the small total of wages paid suggests the intermittent character of much of the employment.

Equipment and other capital.—Statistics as to the number and value of the different kinds of equipment employed, and the amount of other capital invested, are presented in the following tabular statement:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.	
	Number.	Value.
Total		$89,000
Transporting vessels (steam and motor), including outfit		8,100
Vessels	6	6,600
Tonnage	36	
Outfit		1,500
Boats	1,154	37,000
Steam and motor	117	18,000
Row	1,037	19,000
Apparatus of capture (shore and boat fisheries)		31,000
Dip nets	5	
Firearms	45	
Fyke and hoop nets	3,638	
Spears	46	
Pound nets	127	
Seines	37	
Trammel nets	21	
Traps, otter	10	
Shore and accessory property		13,000

The value of vessels and boats together made up one-half of the investment. As would be expected in river fisheries, no sailing craft were reported. Of the apparatus of capture, fyke and hoop nets were most numerous, with a value greater than that of all other kinds of apparatus combined.

Products, by species.—The table on page 84 gives the quantity and value of the products of the Arkansas fisheries, distributed by species and by apparatus of capture.

Fifteen species of fish were reported, besides frogs, turtles, mussel shells, and pearls and slugs. Mussel shells and pearls and slugs made up one-third of the total value of products. The catch of buffalo fish was the most important among the fish, and catfish and black bass were next in order. These four species contributed 80 per cent of the total value of products. In 1899 also buffalo fish and catfish were the leading species. Black bass, however, was one of the minor species in 1899. Crappie, fifth in importance in 1908, stood third in 1899, while paddlefish and caviar, although of little importance in 1908, stood fourth in 1899.

Products, by fishing grounds.—The distribution of the products by fishing grounds is given below:

FISHING GROUND.	FISHERY PRODUCTS: 1908.					
	Total.		Other than mussel shells, pearls, and slugs.		Mussel shells, pearls, and slugs.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	12,567,000	$207,000	4,507,000	$137,000	8,060,000	$70,000
White River	7,070,000	89,000	1,110,000	29,000	5,960,000	59,000
St. Francis River	242,000	39,000	942,000	33,000	1,300,000	6,500
Big Lake	747,000	24,000	747,000	24,000		
Arkansas River	577,000	17,000	577,000	17,000		
Black River	829,000	4,700	29,000	700	800,000	4,000
Ouachita River	67,000	4,000	67,000	4,000		
Mississippi River and all other	1,035,000	30,000	1,035,000	30,000		

The fisheries of the White River were the most important in the state, measured by value of products, and the mussel fisheries contributed the larger part of the product. Only two other rivers, the St. Francis and the Black, reported mussel fisheries.

Products, by apparatus of capture.—In 1908 crowfoot dredges, fyke nets, lines, and seines together were credited with 93 per cent of the total value of products, ranking in importance in the order named. In 1899 crowfoot dredges were not reported, and the leading kinds of apparatus used were, in the order of importance, seines, fyke nets, and set lines. In 1899 seines took 37 per cent in value of the total product, while in 1908 they took only 15 per cent of the fish proper. This decrease is counterbalanced by the increases in the catch of fyke nets and lines, as shown by the tabular statement following.

YEAR.	PRODUCTS CAUGHT BY—			
	Fyke nets.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	2,286,000	$53,000	1,081,000	$48,000
1899	1,495,000	45,000	682,000	30,000

Buffalo fish.—In 1908 the buffalo-fish catch represented 21 per cent of the total value of products, compared with 31 per cent in 1899. The product of this species has decreased slightly in quantity and still more in value. The gain over 1894, however, is substantial, as is shown by the following tabular statement:

YEAR.	BUFFALO-FISH PRODUCT.	
	Quantity (pounds).	Value.
1908	2,051,000	$43,000
1899	2,389,000	53,000
1894	1,625,000	31,000

Catfish.—Catfish contributed 16 per cent of the total value of products in 1908, as compared with approximately 25 per cent in 1899. Although the catch has increased since 1899, the value has decreased. The following tabular statement gives the product for 1894, 1899, and 1908:

YEAR.	CATFISH PRODUCT.	
	Quantity. (pounds).	Value.
1908	895,000	$33,000
1899	829,000	42,000
1894	905,000	38,000

Other leading products.—In 1908 the value of the black bass caught, $20,000, formed 10 per cent of the entire value of the fishery products of the state, the quantity being much larger than in 1899, when its value was $10,000. The catch of crappie in 1908 was approximately 25 per cent heavier than in 1899, but of about the same value. The total catch of fresh-water drum has increased one-third in quantity and one-seventh in value since 1899.

ARKANSAS—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Fyke nets.		Lines.		Seines.		Pound nets.		Trammel nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	12,567,000	$207,000	2,286,000	$53,000	1,081,000	$48,000	692,000	$21,000	275,000	$7,100	129,000	$3,900	8,105,000	$74,000
Fish:														
Black bass	292,000	20,000	7,000	500	222,000	15,000	21,000	1,400	20,000	1,400	18,000	1,300	3,700	300
Bream, or sunfish	228,000	6,000	70,000	1,000	44,000	1,630	72,000	2,000	27,000	600	15,000	300		
Buffalo fish	2,051,000	43,000	1,495,000	32,000	73,000	1,800	287,000	6,100	142,000	2,500	44,000	800	8,500	200
Carp, German	175,000	4,100	102,000	2,400	23,000	700	29,000	600	8,500	100	10,000	200	700	(2)
Catfish	895,000	33,000	216,000	7,100	535,000	20,000	105,000	4,100	25,000	900	14,000	400		
Crappie	300,000	13,000	71,000	2,800	104,000	5,100	58,000	2,700	42,000	1,500	25,000	900		
Drum, fresh-water	402,000	8,900	284,000	6,000	55,000	1,700	55,000	1,100	7,700	100	800	(2)		
Paddlefish	71,000	2,000	19,000	500			52,000	1,500						
Caviar and paddlefish eggs	800	700					800	700						
Pike	14,000	300	3,400	100	6,000	100	1,000	(2)	2,600	100	1,200	(2)		
Pike perch (wall-eyed)	1,300	100			1,300	100								
Rock bass	15,000	900	1,900	100	4,000	200	9,200	600						
Suckers	12,000	200	12,000	200										
White bass	16,000	1,000	4,000	200	12,000	800								
All other	2,000	(2)			2,000	(2)								
Frogs	27,000	4,000											27,000	4,000
Turtles	6,000	100					1,000	(2)					5,000	100
Mussel shells	8,060,000	42,000											8,060,000	42,000
Pearls and slugs		28,000												28,000
Skins, otter	(3)	100											(3)	100

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, 8,060,000 pounds, valued at $70,000; firearms, 19,000 pounds, valued at $2,900; harpoons, spears, etc., 20,000 pounds, valued at $1,600; dip nets and traps, 5,000 pounds, valued at $200.
[2] Less than $100.
[3] Seven skins.

CALIFORNIA.

In the value of products from fisheries, California ranked second among the Pacific coast states both at the canvass of 1904 and at that of 1908. Sea fishing is carried on along practically the entire coast line of the state, but the river or inland fisheries are confined almost exclusively to the rivers flowing into San Francisco Bay, the largest and most productive of which is the Sacramento. Humboldt Bay is next in importance as a fishing ground, the salmon catch being the principal product. The following tabular statement gives a summary of the industry for 1908:

Number of persons employed	4,129
Capital:	
Vessels and boats, including outfit	$1,066,000
Apparatus of capture	502,000
Shore and accessory property and cash	91,000
Value of products	1,970,000

Comparison with previous canvasses.—The statistics reported for the years 1904 and 1899 are not in all respects comparable with the returns for 1908, on account of the inclusion in the earlier canvasses of the capital and number of persons employed in the canneries and packing houses with the data for the fisheries. The following figures, however, which are exclusive of statistics for shoresmen, capital invested in shore and accessory property, and cash capital, may be considered as comparable:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	4,100	$1,568,000	$1,066,000	$502,000	47,477,000	$1,970,000
1904	4,406	1,489,000	1,128,000	360,000	52,110,000	2,523,000
1899	3,480	1,574,000	1,325,000	250,000	74,539,000	2,551,000

In 1908, as compared with 1904, the number of persons employed, exclusive of shoresmen, shows a decrease of 7 per cent and the capital invested in floating craft and fishing equipment an increase of 5 per cent, while the value of products shows a material loss of 22 per cent, the larger portion of which can be attributed to the decrease in the value of products of the oyster industry. From 1899 to 1904 there was an increase of 27 per cent in the number of persons employed, and decreases of 5 per cent in the capital invested and of 1 per cent in the value of products.

Persons employed.—The number of persons employed and the salaries and wages paid during the year 1908 in each branch of the industry were as follows:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	4,129	[1] 2,622	41	1,466	$562,000	$26,000	[2] $536,000
Vessel fisheries	645	26	1	618	215,000	1,200	214,000
Transporting vessels	135	7	.....	128	55,000	.....	55,000
Shore and boat fisheries	3,320	2,589	11	720	275,000	25,000	250,000
Shoresmen	29	.....	29	.....	17,000	.....	17,000

[1] Exclusive of three proprietors not fishing.
[2] Includes provisions furnished to the value of $85,000.

Of the 4,129 persons engaged in fishing, 16 per cent were connected with the vessel fisheries, 80 per cent with the shore and boat fisheries, and 3 per cent with the transporting vessels, while only 1 per cent were employed exclusively as shoresmen. Of the total number of proprietors and independent fishermen, 99 per cent were reported by the shore and boat fisheries. These fisheries, however, employed only 49 per cent of the total number of wage-earners, while the vessel fisheries employed 41 per cent. The vessel fisheries and the shore and boat fisheries are not comparable with respect to the number of proprietors and independent fishermen, inasmuch as many of the vessels are owned by corporations, while the percentage of the shore and boat fisheries conducted by corporations is very small.

Only 29 of the shoresmen were reported as being directly connected with the fisheries. It must be borne in mind that this number does not include employees working in canneries, packing houses, or fish markets.

Equipment and other capital.—The description and value of vessels and boats engaged in the fisheries of the state and the value of apparatus used, together with the amount of other capital invested in 1908, are given in the following tabular statement:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$1,659,000	.....	.....
Vessels, including outfit	573,000	60	9,332
Fishing	412,000	31	4,480
Steam and motor	284,000	22	2,253
Vessels	216,000	.....	.....
Outfit	68,000	.....	.....
Sail	129,000	9	2,227
Vessels	97,000	.....	.....
Outfit	31,000	.....	.....
Transporting	161,000	21	4,852
Steam and motor	63,000	14	182
Vessels	57,000	.....	.....
Outfit	5,400	.....	.....
Sail	96,000	7	4,670
Vessels	80,000	.....	.....
Outfit	16,000	.....	.....
Barges	2,200	8	.....
Boats	493,000	2,121	.....
Steam and motor	321,000	413	.....
Sail	121,000	814	.....
Row	30,000	799	.....
Other	20,000	95	.....
Apparatus of capture	502,000	.....	.....
Vessel fisheries	19,000	.....	.....
Shore and boat fisheries	483,000	.....	.....
Shore and accessory property	63,000	.....	.....
Cash	28,000	.....	.....

The number of the various kinds of apparatus of capture used was as follows:

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Used in—	
		Vessel fisheries.	Shore and boat fisheries.
Abalone outfit	56	.....	56
Fyke and hoop nets	1,580	.....	1,580
Gill nets	3,550	19	3,531
Paranzella nets	20	19	1
Pots, crab and lobster	2,874	30	2,844
Seines	146	5	141
Shrimp nets	295	.....	295
Trammel nets	2,537	15	2,522
Turtle nets	57	.....	57

Products, by species.—Table 1, on page 89, shows the quantity and value of the fishery products of the state, by species and by apparatus of capture.

A comparison of the chief species included in the catch reported by the Bureau of Fisheries for 1899

and 1904 and in that reported at the present census, as given in the following tabular statement, is of interest as showing the fluctuations in the fishery products:

SPECIES.	FISHERY PRODUCTS.					
	1908		1904		1899	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	47,477,000	$1,970,000	52,110,000	$2,523,000	46,832,000	$2,551,000
Fish:						
Barracuda	3,205,000	88,000	2,159,000	52,000	1,192,000	33,000
Catfish	1,069,000	56,000	737,000	21,000	466,000	13,000
Cod, salted	3,298,000	94,000	5,623,000	132,000	5,917,000	178,000
Flounders	3,193,000	80,000	4,336,000	84,000	4,686,000	92,000
Rockfish	2,319,000	60,000	1,793,000	59,000	1,233,000	38,000
Salmon	9,211,000	471,000	12,343,000	456,000	7,243,000	262,000
Chinook	8,846,000	460,000	11,746,000	444,000	7,088,000	255,000
Blueback	147,000	4,900	273,000	4,300	22,000	800
Silver	141,000	4,200	269,000	5,000	60,000	2,100
Steelhead	76,000	2,800	55,000	1,600	114,000	3,900
Sardines	4,638,000	30,000	1,036,000	12,000	2,383,000	18,000
Squeteague, or white sea-bass	1,337,000	42,000	979,000	31,000	938,000	20,000
Smelt	718,000	41,000	1,362,000	52,000	1,315,000	58,000
Sole	3,487,000	65,000	3,874,000	69,000	32,000	600
Striped bass	1,776,000	135,000	1,570,000	92,000	1,234,000	62,000
Abalone (meat and shells)	1,235,000	22,000	834,000	9,400	895,000	33,000
Crabs	1,702,000	69,000	5,111,000	155,000	2,677,000	86,000
Oysters	729,000	337,000	1,320,000	628,000	2,940,000	867,000
Shrimp (meat and shells)	979,000	33,000	1,832,000	72,000	4,047,000	111,000
Spiny lobster	573,000	69,000	1,078,000	43,000	607,000	14,000
Whale products	214,000	132,000	412,000	303,000	715,000	456,000
Bone	32,000	119,000	87,000	375,000	207,000	436,000
Oil (whale and sperm)	182,000	13,000	325,000	18,000	507,000	20,000
All other	7,793,000	148,000	8,711,000	163,000	7,272,000	210,000

Although the total value of products in 1908 shows a material decrease, as compared with the values for the prior years, the value of the salmon catch increased. The value of this catch formed 24 per cent of the total value of products in 1908, compared with 10 per cent in 1899. Other species that have increased notably are striped bass, barracuda, spiny lobsters, rockfish, catfish, and squeteague, or white sea bass. Whale products, on the other hand, show a large and steady decrease, both actual and proportionate, and cod, smelt, and shrimp decreased in a less degree.

Products, by fishing grounds.—The following tabular statement shows the quantity and value of products taken by the shore and boat fisheries from the different waters of the state:

FISHING GROUND.	PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	36,860,000	100	$1,627,000	100
Sacramento River	11,643,000	32	617,000	38
San Francisco Bay	3,522,000	10	431,000	26
Pacific Ocean	8,552,000	23	249,000	15
Humboldt Bay, including Eel and Mad Rivers	2,888,000	8	96,000	6
Monterey Bay	5,248,000	14	89,000	6
Monica Bay	2,574,000	7	67,000	4
Santa Barbara Channel	1,535,000	4	62,000	4
Klamath River	433,000	1	5,900	1
San Luis Obispo Bay	464,000	1	6,200	(1)

[1] Less than 1 per cent.

Of the total products taken by the shore and boat fisheries in 1908, products from the Sacramento River formed 32 per cent in quantity and 38 per cent in value. Salmon was the principal species caught in this river and amounted to 7,292,000 pounds. Striped bass was next in importance, the quantity reported being 1,690,000 pounds. Other species taken were as follows: Catfish, 1,068,000 pounds; shad, 1,055,000 pounds; carp, 425,000 pounds; black bass, 82,000 pounds; pike, 20,000 pounds; and sturgeon, 10,000 pounds. The total catch taken from the Sacramento River and the product of salmon, striped bass, catfish, shad, carp, and black bass for that river show substantial gains since 1904.

San Francisco Bay was second in rank according to the value of products, although the quantity of products taken from the Pacific Ocean was greater. This is due largely to the fact that much of the ocean product does not compare in value with the salmon and other choice species taken in the bay. The oyster product of San Francisco Bay also affected the relative value of the catch to a large extent. Herring was the principal species taken in the bay fisheries, the weight of the catch amounting to 450,000 pounds. Smelt ranked next in respect to quantity, with 278,000 pounds, and sea bass followed, with 271,000 pounds. Rockfish, striped bass, and sardines were also taken in considerable quantities.

In Humboldt Bay and its tributaries there were taken, besides salmon, the following: Smelt, 132,000 pounds; flounders, 112,000 pounds; herring, 26,000 pounds; rockfish, 63,000 pounds; and crabs, 1,411,000 pounds. Hard and soft clams also were marketed in considerable quantities.

The sardine catch of Monterey Bay amounted to 1,782,000 pounds, and was valued at $8,900. The low value per pound of sardines causes the average value per pound of the products of this bay to be lower than that for any other waters of the state, with the exception of San Luis Obispo Bay. More than two-thirds of the abalone catch of the state is credited to Monterey Bay. Other products were rockfish, 1,850,000 pounds; barracuda, 383,000 pounds; sea bass, 365,000 pounds; and squid, 110,000 pounds.

Products, by class of fisheries.—The next tabular statement shows the leading products ranked according to value, and their distribution between the vessel and the shore and boat fisheries.

The vessel fisheries of California are of minor importance, compared with the shore and boat fisheries, their product contributing in 1908 only 17 per cent to the total value of the fishery products of the state.

Table 3, on page 91, shows the product of the vessel fisheries by species and by apparatus of capture. Ranked according to the value of products, whaling apparatus was of first importance among the various kinds of apparatus of capture used by the vessel fisheries, and it was followed by lines, paranzella nets, seines, dredges, tongs, etc., and gill nets, in the order named.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,970,000	$343,000	$1,627,000
Fish	1,292,000	209,000	1,083,000
Salmon	471,000	.....	471,000
Chinook	460,000	.....	460,000
Blueback	4,900	.....	4,900
Silver	4,200	.....	4,200
Steelhead	2,800	.....	2,800
Striped bass	135,000	.....	135,000
Cod	94,000	94,000	.....
Barracuda	88,000	900	87,000
Flounders	80,000	10,000	69,000
Sole	65,000	60,000	4,400
Rockfish	60,000	6,100	54,000
Catfish	56,000	.....	56,000
Squeteague, or white sea-bass	42,000	400	42,000
Smelt	41,000	.....	41,000
Sardines	30,000	14,000	16,000
All other	131,000	22,000	109,000
Oysters	337,000	(1)	337,000
Whale products (bone and oil)	132,000	132,000	.....
Crabs	69,000	200	68,000
Spiny lobster	69,000	1,900	67,000
Shrimp	31,000	.....	31,000
Abalone, including shells	22,000	.....	22,000
All other	19,000	.....	19,000

[1] The oyster catch of one vessel is included with that of the shore and boat fisheries.

The products of the shore and boat fisheries of the state were valued at $1,627,000 in 1908, compared with $1,864,000 in 1904, a decrease of 13 per cent. In 1908 these products formed 83 per cent of the total product of the state, and in 1904, 74 percent. Table 2, on page 90, gives the products of the shore and boat fisheries by species and by apparatus of capture. All of the salmon catch of the state was made by the shore and boat fisheries. It was necessary to credit the entire oyster catch to this class of fisheries in order to avoid disclosing the operations of one company operating an oyster vessel.

Products, by apparatus of capture.—The following tabular statement shows the catch by each kind of apparatus for each class of fisheries:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,970,000	$343,000	$1,627,000
Gill nets	769,000	6,000	763,000
Dredges, tongs, etc	337,000	(1)	337,000
Lines	212,000	101,000	111,000
Pots, crab and lobster	137,000	1,900	135,000
Whaling apparatus	132,000	132,000	.....
Seines	116,000	15,000	101,000
Paranzella nets	87,000	87,000	100
Fyke nets	62,000	.....	62,000
Trammel nets	52,000	400	51,000
Shrimp nets	33,000	.....	33,000
All other [2]	34,000	.....	34,000

[1] The catch of one vessel is included with that of the shore and boat fisheries.
[2] Includes apparatus, with value of catch, as follows: Abalone outfit, $22,000; turtle nets, $1,300; and minor apparatus, $11,000.

Judged by the value of products taken, gill nets led among the various kinds of apparatus used in the fisheries of the state. The largest catch made with these nets was chinook salmon, which had a value of $409,000, or 53 per cent of the total value of the product taken by this apparatus. Barracuda, sea bass, smelt, and striped bass were also largely caught in gill nets.

Dredges, tongs, etc., which ranked second in the value of the products taken, were used exclusively in the oyster fisheries.

Third in importance were hand, trawl, and set lines. Some species are taken only by line fishing, cod being among the most notable of these both in quantity and value. Black cod, redfish, sea trout, and swordfish are other species the entire product of which was caught by lines. The quantity and value reported for each of these species are much less than for cod.

The seine catch of chinook salmon was the greatest in value among the products taken by seines, although the weight of the seine sardine catch was more than five times as great, namely, 4,552,000 pounds, representing 66 per cent of the total weight of the seine catch. Smelt to the value of $13,000 were caught with seines. In the case of every other species the catch by this apparatus was of minor importance.

The paranzella net is peculiar to the fishing of California, none having been reported in use in any other state. Sole was the principal species caught with this kind of apparatus, representing 69 per cent of the quantity and 69 per cent of the value of the entire paranzella catch. Whitefish, flounders, kingfish, and skates were also taken in considerable quantities.

Catfish formed the principal catch with fyke nets, while flounders were practically the only species caught with trammel nets.

Salmon.—In 1908 salmon stood first both in quantity and in value among the species taken in California waters. The state ranked third in the country both in the quantity and in the value of the catch of salmon. Chinook was the principal kind taken, forming 96 per cent of the total yield of salmon in 1908 and representing 23 per cent of the total value of fishery products of the state. There was an increase in the quantity and in the value of this product sold fresh, as compared with the catch for 1904 reported by the Bureau of Fisheries, but a decrease in the salted product resulted in a decrease in the total quantity of chinook taken. The total value, however, increased slightly.

The next tabular statement shows the quantity and value of the salmon taken from the different waters of the state.

The Sacramento River is the principal fishing ground for salmon. Of the total quantity, 79 per

cent was taken from that river. Humboldt Bay and tributaries were next in importance, being credited with 12 per cent of the total catch. Klamath River, Monterey Bay, and San Francisco Bay ranked in the order named as to the quantity taken, but in respect to value the catch from Monterey Bay exceeded that from the Klamath River. The lower value per pound of the Klamath River catch may be attributed to the cost of shipping the product from Klamath River to San Francisco or to other markets.

FISHING GROUND.	SALMON: 1908.	
	Quantity (pounds).	Value.
Total	9,211,000	$471,000
Sacramento River	7,292,000	412,000
Humboldt Bay, including Eel and Mad Rivers	1,120,000	37,000
Monterey Bay	335,000	12,000
Klamath River	433,000	8,900
San Francisco Bay	31,000	1,700

Striped bass.—In value of the catch striped bass ranked second among the species reported for California, although larger quantities of sardines, sole, cod, barracuda, flounders, and rockfish were caught. The quantity of striped bass reported for 1908 was greater by 205,000 pounds, or 13 per cent, than that reported for 1904, while the value was greater by $43,000, or 47 per cent.

Cod.—This species, third in value of product, was reported only by vessel fisheries, and was taken largely off the coast of Alaska. Six vessels with a total net tonnage of 1,889 were engaged in this fishery in 1908. None of this product was reported as being sold fresh, all being salted before the vessels returned from the fishing grounds. The catch for 1908 was less by 2,325,000 pounds, or 41 per cent, than that reported for 1904, when the amount was 5,623,000 pounds, valued at $132,000.

Barracuda.—Barracuda increased both in quantity and in value from 1904 to 1908. The product sold fresh increased in weight 1,150,000 pounds, or 59 per cent, and in value $40,000, or 90 per cent. The salted product, however, showed a considerable decrease, the loss in weight being 104,000 pounds, or 48 per cent, and that in value $4,100, or 54 per cent.

Flounders and sole.—In the group of flat fishes, both flounders and sole showed decreases, as compared with 1904. In 1908 the catch of sole was greater than that of flounders, but the value of the latter was greater. The reports of 1904 show a product of 4,336,000 pounds of flounders, valued at $84,000, while in 1908 the product was only 3,193,000 pounds, valued at $80,000. The decrease amounted to 26 per cent in quantity and 5 per cent in value. No salted product was reported by California fishermen in 1908. The quantity of sole caught in 1904 was 3,874,000 pounds, and in 1908, 3,487,000 pounds, a decrease of 386,000 pounds, or 10 per cent. The value of the catch during the period indicated fell from $69,000 to $65,000, a decrease of 6 per cent.

Oysters.—The oyster industry, while of considerable importance, has decreased gradually from 1899 to 1908. It is difficult adequately to explain this decrease. There is no doubt that the year 1908 was a poor one, some beds not yielding more than 10 per cent of the usual catch. All of the oysters reported at the present census were taken from private beds and used for market purposes only. All seed oysters planted during the year were shipped from eastern beds for that purpose. No attempt was made at the present census to show separately the yield of eastern and of native species.

Crustaceans.—Crabs show a decrease between 1904 and 1908 of 67 per cent in quantity and 56 per cent in value. Spiny lobsters decreased in quantity during the same period 47 per cent, but the value increased 60 per cent. The decrease in the shrimp product was 47 per cent in quantity and 54 per cent in value.

Abalone.—The abalone industry in the United States is confined to California and is materially increasing in importance. In 1904 the total product was valued at $9,400, while in 1908 the value was $22,000, an increase of 134 per cent.

Whale products.—Whale products constituted the principal products of the vessel fisheries of California, but showed a decrease in value from 1904 to 1908 of $261,000, or 66 per cent. Indeed, there has been a steady decrease in whale products for several years. In 1904 the Bureau of Fisheries reported 87,000 pounds of whalebone, valued at $375,000, and 43,000 gallons of oil, valued at $18,000. The whaling fleet comprised seven vessels, of 2,328 tons net register.

Sea lions.—An industry of considerable importance is the capture of sea lions, which are sold alive for exhibition purposes. As but one fishery of this class was reported, the product is included in the group of "All other," to avoid the disclosure of individual operations.

TABLE 1.—CALIFORNIA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Paranzella nets.		Fyke nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	47,477,000	$1,970,000	18,427,000	$769,000	8,136,000	$212,000	6,892,000	$116,000	4,722,000	$87,000	1,218,000	$62,000	8,082,000	$725,000
Fish:														
Anchovies	220,000	1,600	55,000	400			165,000	1,200						
Barracuda	3,205,000	88,000	2,643,000	74,000	562,000	14,000								
Black bass	82,000	8,200	40,000	4,000			22,000	2,200			20,000	2,000		
Black cod	35,000	400			35,000	400								
Bonito	329,000	6,100	289,000	5,500	40,000	600								
Carp, German	427,000	4,300	382,000	3,800							45,000	400		
Catfish	1,069,000	56,000					400	(2)			1,068,000	56,000		
Chub mackerel	197,000	3,300	173,000	3,100			24,000	200						
Cod, salted	3,298,000	94,000			3,298,000	94,000								
Croaker	58,000	1,800	29,000	900			29,000	900						
Cultus cod	167,000	4,800	400	(2)	129,000	3,600			38,000	1,100				
Flounders and soles	6,681,000	144,000	526,000	10,000	460,000	12,000	122,000	2,200	3,629,000	68,000			1,944,000	51,000
Hake, silver	32,000	300	32,000	300										
Herring	825,000	11,000	634,000	8,500			192,000	2,500						
Horse mackerel	39,000	600	39,000	600										
Jewfish	161,000	2,600	35,000	700	119,000	1,800							7,500	100
Kingfish	682,000	12,000	87,000	1,800	16,000	200	238,000	3,200	341,000	6,500				
Mullet	3,600	300	1,600	100			2,100	300						
Pompano, or butterfish	89,000	13,000	25,000	4,600	3,000	300	54,000	7,900	7,200	400				
Redfish, or fathead	13,000	200			13,000	200								
Rockfish	2,319,000	60,000	59,000	1,200	2,189,000	57,000	8,000	(2)	63,000	2,400				
Sacramento pike	20,000	500	20,000	500										
Salmon, blueback	147,000	4,900	83,000	2,800			64,000	2,100						
Salmon, chinook	8,846,000	460,000	7,682,000	411,000	294,000	10,000	870,000	38,000	200	(2)				
Salmon, silver	141,000	4,200	106,000	3,200			35,000	1,000						
Salmon, steelhead	76,000	2,800	19,000	700	5,000	500	13,000	500			39,000	1,200		
Sardines	4,638,000	30,000	86,000	400			4,552,000	30,000						
Scarbina	4,900	200	4,900	200										
Sea trout	32,000	300			32,000	300								
Shad	1,169,000	12,000	1,143,000	12,000	400	(2)			1,000	(2)	25,000	200		
Skates	124,000	1,000							124,000	1,000				
Smelt	718,000	41,000	498,000	28,000			220,000	13,000						
Spanish mackerel	349,000	5,300	243,000	4,000	106,000	1,400								
Squeteague, or white sea-bass	1,337,000	42,000	1,316,000	41,000	14,000	600	100	(2)	6,400	200				
Striped bass	1,776,000	135,000	1,739,000	131,000	800	100	16,000	1,500			20,000	2,000		
Sturgeon	10,000	500	10,000	500										
Surf-fish, or viviparous perch	198,000	5,400	83,000	2,100	4,100	100	111,000	3,200						
Swordfish	7,800	200			7,8									
Tomcod	49,000	1,500	2,000	100			1,300	100	46,000	1,300				
Whitefish	466,000	5,800			5,700	200			460,000	5,600				
Yellowfin	12,000	400	5,500	200			7,000	200						
Yellowtail	571,000	14,000	240,000	5,500	303,000	7,400	28,000	900						
All other	603,000	14,000	95,000	6,400	500,000	6,700	7,200	300	300	(2)				
Crabs, hard	1,702,000	69,000							5,100	200			1,697,000	68,000
Shrimp	258,000	31,000											258,000	31,000
Shrimp shells	721,000	1,800											721,000	1,800
Spiny lobster	573,000	69,000											573,000	69,000
Abalone	1,005,000	16,000											1,005,000	16,000
Abalone shells	230,000	5,200											230,000	5,200
Clams, hard	[3] 132,000	4,500											[3] 132,000	4,500
Clams, soft	[4] 468,000	5,300											[4] 468,000	5,300
Mussels	68,000	1,600											68,000	1,600
Oysters, market, from private areas	[5] 729,000	337,000											[5] 729,000	337,000
Squid	110,000	4,400					110,000	4,400						
Turtles	38,000	1,300											38,000	1,300
Whalebone	32,000	119,000											32,000	119,000
Oil, whale	[6] 13,000	900											[6] 13,000	900
Oil, sperm	[7] 169,000	12,000											[7] 169,000	12,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 729,000 pounds, valued at $337,000; pots, 2,270,000 pounds, valued at $137,000; whaling apparatus, 214,000 pounds, valued at $132,000; trammel nets, 1,951,000 pounds, valued at $52,000; turtle and shrimp nets, 1,017,000 pounds, valued at $34,000; abalone outfit, 1,235,000 pounds, valued at $22,000; and minor apparatus, 667,000 pounds, valued at $11,000.

[2] Less than $100. [3] 16,000 bushels. [4] 47,000 bushels. [5] 104,000 bushels. [6] 1,700 gallons. [7] 23,000 gallons.

TABLE 2.—CALIFORNIA—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Fyke nets.		Paranzella nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds)	Value.
Total	36,860,000	$1,627,000	18,388,000	$763,000	4,619,000	$111,000	4,794,000	$101,000	1,218,000	$62,000	4,000	$100	7,838,000	$591,000
Fish:														
Albacore and tuna, fresh	510,000	6,600	42,000	800	468,000	5,800								
Albacore and tuna, salted	32,000	900			32,000	900								
Anchovies	220,000	1,600	55,000	400			165,000	1,200						
Barracuda, fresh	3,061,000	83,000	2,552,000	71,000	509,000	12,000								
Barracuda, salted	112,000	3,500	73,000	2,300	39,000	1,200								
Black bass	82,000	8,200	40,000	4,000			22,000	2,200	20,000	2,000				
Black cod	35,000	400			35,000	400								
Bonito	329,000	6,100	289,000	5,500	40,000	600								
Carp, German	427,000	4,300	382,000	3,800					45,000	400				
Catfish	1,069,000	56,000					400	(2)	1,068,000	56,000				
Croaker	58,000	1,800	29,000	900			29,000	900						
Cultus cod	117,000	3,200	400	(2)	117,000	3,200								
Flounders	2,741,000	69,000	400,000	8,300	312,000	7,900	102,000	2,000			2,300	(2)	1,925,000	51,000
Hake, silver	32,000	300	32,000	300										
Herring	825,000	11,000	634,000	8,500			192,000	2,500						
Horse mackerel	39,000	600	39,000	600										
Jewfish, fresh	138,000	1,700	35,000	700	95,000	1,000							7,500	100
Jewfish, salted	22,000	800			22,000	800								
Kingfish	337,000	5,100	87,000	1,800	16,000	200	234,000	3,100						
Mackerel, chub	173,000	3,100	173,000	3,100										
Mullet	3,600	300	1,600	100			2,100	200						
Pompano	82,000	13,000	25,000	4,600	3,000	300	54,000	7,900						
Redfish, or fathead	13,000	200			13,000	200								
Rockfish, fresh	2,131,000	54,000	59,000	1,200	2,064,000	53,000	8,000	(2)						
Rockfish, salted	8,800	300			8,800	300								
Sacramento pike	20,000	300	20,000	500										
Salmon, blueback	147,000	4,900	83,000	2,800			64,000	2,100						
Salmon, chinook (fresh)	8,808,000	458,000	7,651,000	409,000	294,000	10,000	863,000	38,000			200	(2)		
Salmon, chinook (salted)	39,000	1,700	31,000	1,400			7,200	300						
Salmon, silver	141,000	4,200	106,000	3,200			35,000	1,000						
Salmon, steelhead	76,000	2,800	19,000	700	5,000	500	13,000	500	39,000	1,200				
Sardines	2,567,000	16,000	85,000	400			2,482,000	15,000						
Scarbina	4,900	200	4,900	200										
Sea trout	32,000	300			32,000	300								
Shad	1,169,000	12,000	1,143,000	12,000	400	(2)			25,000	200	1,000	(2)		
Smelt	718,000	41,000	498,000	28,000			220,000	13,000						
Sole	222,000	4,400	126,000	1,900	73,000	2,200	20,000	200					3,000	100
Spanish mackerel, fresh	326,000	4,600	231,000	3,600	95,000	1,100								
Spanish mackerel, salted	23,000	700	13,000	400	10,000	300								
Squeteague, or white sea-bass	1,326,000	42,000	1,311,000	41,000	14,000	600	100	(2)						
Striped bass	1,776,000	135,000	1,739,000	131,000	800	100	16,000	1,500	20,000	2,000				
Sturgeon	10,000	500	10,000	500										
Surf-fish, or viviparous perch	198,000	5,400	83,000	2,100	4,100	100	111,000	3,200						
Swordfish	7,800	200			7,800	200								
Tomcod	3,600	300	2,000	100			1,300	100			300	(2)		
Whitefish	5,700	200			5,700	200								
Yellowfin	12,000	400	5,500	200			7,000	200						
Yellowtail, fresh	564,000	14,000	240,000	5,500	296,000	7,200	28,000	900						
Yellowtail, salted	6,100	200			6,100	200								
All other	44,000	700	37,000	300			7,000	300			300	(2)		
Crabs, hard	1,697,000	68,000											1,697,000	68,000
Shrimp	258,000	31,000											258,000	31,000
Shrimp shells	721,000	1,800											721,000	1,800
Spiny lobster	558,000	67,000											558,000	67,000
Abalone	1,005,000	16,000											1,005,000	16,000
Abalone shells	230,000	5,200											230,000	5,200
Clams, hard	[3] 132,000	4,500											[3] 132,000	4,500
Clams, soft	[4] 468,000	5,300											[4] 468,000	5,300
Mussels	68,000	1,600											68,000	1,600
Oysters, market, from private areas[5]	[6] 729,000	337,000											[6] 729,000	337,000
Squid	110,000	4,400					110,000	4,400						
Turtles	38,000	1,300											38,000	1,300

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 729,000 pounds, valued at $337,000; pots, 2,255,000 pounds, valued at $135,000; trammel nets, 1,936,000 pounds, valued at $51,000; turtle and shrimp nets, 1,017,000 pounds, valued at $34,000; abalone outfit, 1,235,000 pounds, valued at $22,000; and minor apparatus, 667,000 pounds, valued at $11,000.
[2] Less than $100. [3] 16,000 bushels. [4] 47,000 bushels. [5] Includes the product of one establishment belonging to the vessel fisheries. [6] 102,000 bushels.

TABLE 3.—CALIFORNIA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.[1]		PRODUCT CAUGHT BY—									
			Lines.		Paranzella nets.		Seines.		Gill nets.		All other apparatus.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,617,000	$343,000	3,517,000	$101,000	4,718,000	$87,000	2,098,000	$15,000	39,000	$6,000	244,000	$134,000
Fish:												
Barracuda	31,000	900	13,000	400					18,000	500		
Cod, salted	3,298,000	94,000	3,298,000	94,000								
Cultus cod	50,000	1,500	12,000	400	38,000	1,100						
Flounders	452,000	10,000	72,000	2,200	365,000	7,700					15,000	400
Kingfish	345,000	6,500			341,000	6,500	3,600	100				
Mackerel, chub	24,000	200					24,000	200				
Pompano	7,200	400			7,200	400						
Rockfish	179,000	6,100	116,000	3,700	63,000	2,400						
Sardines	2,071,000	14,000					2,071,000	14,000				
Sea bass	12,000	400			6,400	200			5,200	200		
Skates	124,000	1,000			124,000	1,000						
Sole	3,265,000	60,000	3,400	100	3,262,000	60,000						
Tomcod	46,000	1,300			46,000	1,300						
Whitefish	460,000	5,600			460,000	5,600						
All other	19,000	5,300	3,300	(2)					16,000	5,200		
Crabs, hard	5,100	200			5,100	200						
Spiny lobster	15,000	1,900									15,000	1,900
Whalebone	32,000	119,000									32,000	119,000
Oil, whale	[3] 13,000	900									[3] 13,000	900
Oil, sperm	[4] 169,000	12,000									[4] 169,000	12,000

[1] Exclusive of the oyster catch of one establishment, which is included under the shore and boat fisheries in order to avoid disclosing individual operations.
[2] Includes apparatus, with catch, as follows: Whaling apparatus, 214,000 pounds, valued at $132,000; pots, 15,000 pounds, valued at $1,900; and trammel nets, 15,000 pounds, valued at $400.
[3] Less than $100. [4] 1,700 gallons. [5] 23,000 gallons.

CONNECTICUT.

In 1908 Connecticut ranked ninth among the states in the total value of fishery products, while it held first place in respect to the value of the oyster product and third place in respect to the menhaden product. The oyster industry formed by far the most important part of the fisheries of the state, and it was to this industry that the Connecticut fisheries owed their high rank. The principal fishing grounds are Long Island Sound and the Connecticut River, but commercial fishing is also conducted to some extent on the Saugatuck, Housatonic, West, East, Indian, Four Mile, Mystic, and Pawcatuck Rivers, as well as on some minor streams and inlets. A general summary of the fisheries of the state for 1908 is given in the following statement:

Number of persons employed	2,147
Capital:	
Vessels and boats, including outfit	$1,112,000
Apparatus of capture	84,000
Shore and accessory property and cash	1,086,000
Value of products	2,982,000

Comparison with previous canvasses.—In comparing the number of persons employed in 1908 and the numbers employed in previous years, shoresmen are excluded, since the figures reported for shoresmen by the Bureau of Fisheries include those employed in packing and canning establishments and other shore industries connected with the fisheries.

The following tabular statement presents a comparative summary of the principal items of the Connecticut fisheries for a series of years:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	1,895	$1,196,000	$1,112,000	$84,000	66,942,000	$2,982,000
1905	2,304	1,077,000	1,014,000	63,000	74,973,000	3,174,000
1902	1,865	763,000	698,000	65,000	37,832,000	1,739,000
1898	1,826	718,000	647,000	71,000	31,920,000	1,560,000
1889	2,314	868,000	761,000	106,000	92,672,000	1,558,000

The number of persons, exclusive of shoresmen, employed in the fisheries decreased considerably from 1889 to 1898. In 1905 a relatively large number was returned, but the number reported in 1908 did not differ greatly from those for 1902 and 1898. In the report of the Bureau of Fisheries for the year 1898 the decrease from 1889 to 1898 is ascribed principally to the use of better equipment both in vessels and in apparatus of capture.

While there has been considerable fluctuation in the quantity of the product, the value increased steadily from 1889 to 1905, after which year a slight decrease occurred. The total value of equipment, which has been advancing since 1898, was greater in 1908 than in any previous year for which statistics are available.

Persons employed.—The vessel fisheries gave employment directly to one-half of the persons employed in the fisheries of the state, and the majority of these employees were wage-earners. In the shore and boat fisheries, on the other hand, the wage-earners formed less than one-tenth of the persons engaged in fisheries of this class. All but two of the shoresmen were reported as connected with the vessel fisheries.

The number, salaries, and wages of the persons employed in the fisheries of the state in 1908 were as follows:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	2,147	[1] 952	33	1,162	$544,000	$42,000	[2] $502,000
Vessel fisheries	1,077	228	33	816	421,000	42,000	379,000
Transporting vessels	27	8	.....	19	7,600	.....	7,600
Shore and boat fisheries	791	716	.....	75	19,000	.....	19,000
Shoresmen	252	.....	.....	252	96,000	.....	96,000

[1] Exclusive of 24 proprietors not fishing.
[2] Includes provisions furnished to the value of $69,000.

Equipment and other capital.—The following tabular statement gives the description and value of vessels and boats, together with the value of apparatus of capture, and the amount of other capital employed for the year 1908:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$2,281,000	.....	.....
Vessels, including outfit	994,000	243	5,502
Fishing	973,000	227	5,384
Steam and motor	868,000	132	4,235
Vessels	705,000	.....	.....
Outfit	160,000	.....	.....
Sail	104,000	91	1,149
Vessels	71,000	.....	.....
Outfit	33,000	.....	.....
Other	1,100	4	.....
Transporting	22,000	16	118
Steam and motor	17,000	8	69
Vessels	13,000	.....	.....
Outfit	3,300	.....	.....
Sail	3,700	6	49
Vessels	3,200	.....	.....
Outfit	500	.....	.....
Other	1,500	2	.....
Boats	118,000	1,069	.....
Steam and motor	76,000	240	.....
Sail	30,000	139	.....
Row	12,000	680	.....
Other	500	10	.....
Apparatus of capture	84,000	.....	.....
Vessel fisheries	34,000	.....	.....
Shore and boat fisheries	49,000	.....	.....
Shore and accessory property	513,000	.....	.....
Cash	572,000	.....	.....

The investment in floating craft and apparatus of capture was $1,196,000, or 52 per cent of the total capital invested, as compared with $1,086,000, or 48 per cent, reported for shore and accessory property and cash capital.

The preeminence of the vessel fisheries is indicated by the high value of the vessels engaged in fishing and transporting. Of the total investment in 1908, $994,000 represents the investment in fishing and transporting vessels with their outfit, and $118,000 represents the investment in boats with their outfit. Including apparatus of capture, the investments were $1,029,000 for vessel fisheries and $167,000 for shore and boat fisheries.

The number of vessels reported as engaged in fishing and transporting in 1908 was 243, which is greater by 49 than the total number reported for 1902. There was a corresponding difference in the value of vessels and their outfit for the two years named, the value in 1908 being greater by $367,000 than in 1902.

The investment in apparatus of capture for the shore and boat fisheries exceeded that for the vessel fisheries in 1908, although, as already shown, the capital invested in floating craft and apparatus of capture together was much greater for the vessel fisheries than for the shore and boat fisheries.

The various kinds of apparatus used were distributed between the vessel fisheries and the shore and boat fisheries as follows:

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Used in—	
		Vessel fisheries.	Shore and boat fisheries.
Fyke nets	301	.....	301
Gill nets	269	171	98
Guns	11	11	.....
Pots, eel and lobster	16,725	1,813	14,912
Pound and trap nets	109	10	99
Seines	76	8	68

Products, by species.—The fishery products of the state are given, by species and by apparatus of capture, in Table 1, on page 94.

A comparison with the statistics for former years shows, in general, an increase in the total of fishery products, due chiefly to the growth of the oyster industry. Oysters, menhaden, and lobsters, shown separately in the table below, were the only products with a value forming more than 1 per cent of the total value of all fishery products in 1908.

SPECIES.	VALUE OF PRODUCTS.				
	1908	1905	1902	1898	1889
Total	$2,982,000	$3,174,000	$1,799,000	$1,560,000	$1,558,000
Oysters	2,583,000	2,810,000	1,472,000	1,249,000	1,062,000
Menhaden	93,000	72,000	48,000	26,000	101,000
Lobster	84,000	56,000	41,000	84,000	83,000
All other	221,000	236,000	239,000	200,000	312,000

Products, by class of fisheries.—Table 2, page 95, shows in detail the products of the shore and boat fisheries, and Table 3, page 96, those of the vessel fisheries, by species and by apparatus of capture.

The value of the product for 1908 of the species showing a value of more than $10,000 is given in the tabular statement following for all fisheries, and for the vessel fisheries and the shore and boat fisheries separately.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$2,982,000	$2,713,000	$268,000
Fish	246,000	173,000	73,000
Menhaden	93,000	91,000	2,400
Cod	27,000	25,000	1,500
Flatfish and flounders	21,000	9,600	12,000
Shad	18,000	.....	18,000
Swordfish	15,000	14,000	200
Alewives	12,000	300	12,000
All other	60,000	33,000	27,000
Oysters	2,583,000	2,484,000	99,000
Lobster	84,000	15,000	69,000
Whale and oil products	31,000	31,000	.....
Clams	26,000	3,600	22,000
All other	12,000	7,000	5,000

Products, by apparatus of capture.—The distribution of the total value of products according to the chief kinds of apparatus used is shown in the tabular statement below. Each kind of apparatus which is credited with a total catch exceeding $10,000 in value is given separately.

APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$2,982,000	$2,713,000	$268,000
Dredges, tongs, etc.	2,614,000	2,488,000	126,000
Seines	116,000	94,000	22,000
Eel and lobster pots	89,000	15,000	73,000
Pound and trap nets	43,000	26,000	17,000
Harpoons and spears	43,000	42,000	1,300
Lines	41,000	35,000	6,600
Gill nets	20,000	4,300	16,000
All other	15,000	9,600	5,000

Oysters.—From the table giving the comparison of the value of products for various years from 1889 to 1908 it is seen that the high mark of production reached in 1905 was due to the oyster industry, the total value of products other than oysters for that year being less than for 1908. In 1905 the value of the oyster product formed 89 per cent of the total, compared with 87 per cent in 1908, 82 per cent in 1902, 80 per cent in 1898, and 68 per cent in 1889.

The statistics of the oyster product for 1908, by source of supply, are shown in the following tabular statement:

KIND AND SOURCE.	OYSTER PRODUCT: 1908.			
	Quantity.		Value.	
	Bushels.	Per cent distribution.	Amount.	Per cent distribution.
Total	3,948,000	100	$2,583,000	100
From public areas	217,000	5	103,000	4
From private areas	3,731,000	95	2,480,000	96
Market oysters	1,395,000	35	1,168,000	45
From public areas	6,300	[1]	4,400	[1]
From private areas	1,388,000	35	1,163,000	45
Seed oysters	2,553,000	65	1,415,000	55
From public areas	211,000	5	99,000	4
From private areas	2,342,000	59	1,317,000	51

[1] Less than 1 per cent.

Connecticut was the first of the Northern states to cultivate the oyster successfully. In localities farther to the south warm weather usually prevails in the early summer months when the oysters spawn and a good "set" usually results, but in Connecticut oyster culture is hazardous because of the uncertainty of the "set" of the young oyster, an abundant "set" being the exception. Hundreds of thousands of bushels of shells have been deposited on the private grounds for the purpose of furnishing suitable material to which diminutive oysters may cling, but in rather more than half of the years this work has been profitless because of the destruction of the "set" by adverse weather conditions. The season of 1908 was considered a prosperous one by the fishermen, the bivalves being large and of a superior quality and the demand being such as to keep prices at a remunerative figure. The average price of market oysters per bushel was 84 cents and of seed oysters 55 cents.

The returns show that a considerable portion of the product was taken by Connecticut fishermen from beds outside of the state, mainly from the New York side of Long Island Sound and from the waters of Rhode Island and Massachusetts. A total of 1,270,000 bushels, valued at $1,090,000, was so reported. It was distributed as follows: From Rhode Island waters, 720,000 bushels, valued at $590,000; from New York waters, 511,000 bushels, valued at $453,000; and from Massachusetts waters, 40,000 bushels, valued at $47,000.

Oyster fishing is conducted principally from vessels. In 1908 only about 4 per cent of the value of the total catch was credited to the shore and boat fisheries. Only 3 per cent of the product of the vessel fisheries was taken from the public areas, as compared with about 60 per cent in the case of the shore and boat fisheries.

Menhaden.—In 1908 the menhaden catch of Connecticut ranked next to the oyster product in value, and was surpassed in value only by the catches of that species in Virginia, Delaware, and North Carolina.

Lobsters.—The value of the yield of lobsters, which ranked third among the fishery products of the state in 1908, was greater than in any previous year for which data are available. It was more than double the value for 1902, and slightly greater than the values for 1898 and 1889. The quantity in 1908, however, was only 661,000 pounds, as compared with 1,501,000 pounds in 1889, which represents a decrease of 56 per cent.

Whale and kindred products.—The whale and oil products reached higher figures in 1908 than in any previous year for which a canvass was made since 1880, when the value of these products reported amounted to $53,000. The total yield for 1908 included 49,000 gallons of sperm oil and sea-elephant oil and 1,700 pounds of whalebone.

Other products.—Among the minor products was shad, the catch of which increased steadily from 1889 up to 1905, when it was reported as 485,000 pounds, valued at $38,000. The catch in 1908 was comparatively small, amounting to only 122,000 pounds, valued at $18,000. The entire product of that year was taken from the Connecticut River, with the exception of a small quantity, valued at $700, which was caught in traps in Long Island Sound near the mouth of the river named.

Other fish, such as alewives, carp, eels, perch, pickerel, striped bass, and suckers, aggregating $17,000 in value, were caught in the Connecticut River. The total value of the fish obtained from this river was $34,000. The greater part of the smelt were from the Saugatuck River.

Many fish that were formerly numerous in Connecticut waters are no longer abundant. Less than $700 worth of bluefish were caught in 1908, while in 1898 the value of this product was $33,000, and it ranked third in value among the fishery products of the state. The value of the halibut catch, which was $20,000 in 1889, fell to $600 in 1908. In 1898 the value of sea bass taken amounted to $12,000, compared with $5,400 in 1908.

TABLE 1.—CONNECTICUT—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Pound and trap nets.		Lines.		Gill nets.		Fyke nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	66,942,000	$2,982,000	29,398,000	$116,000	1,629,000	$43,000	1,100,000	$41,000	180,000	$20,000	112,000	$5,000	34,523,000	$2,756,000
Fish:														
Alewives	1,025,000	12,000	858,000	10,000	154,000	1,500			4,500	(2)	8,200	300		
Bluefish	7,900	700	1,000	100	600	100	5,800	500			500	(2)		
Butterfish	102,000	4,100			102,000	4,100								
Carp, German	7,600	600	7,400	600							200	(2)		
Cod	820,000	27,000			12,000	400	809,000	26,000						
Eels	111,000	9,100	36,000	2,500	7,900	500					6,600	800	60,000	5,300
Flatfish and flounders	707,000	21,000	62,000	1,900	508,000	15,000	81,000	2,900			56,000	1,800	200	(2)
Haddock	24,000	900					24,000	900						
Hake, silver	179,000	2,100			179,000	2,100								
Halibut	8,500	600					8,500	600						
Mackerel	122,000	8,900	27,000	2,700	6,600	300	23,000	1,500	66,000	4,300				
Menhaden	28,636,000	93,000	28,316,000	92,000	310,000	900			2,800	(2)	6,800	(2)		
Perch, white	7,600	400	5,400	300					(2)	(2)	2,200	200		
Pickerel	2,500	200	1,500	100							1,000	100		
Pollack	25,000	800	4,500	200			20,000	600						
Scup	95,000	8,500			95,000	8,500								
Sea bass	61,000	5,400			1,000	100	58,000	5,200					1,100	100
Shad	122,000	18,000	5,600	800	7,200	900			107,000	16,000	2,700	[3] 400		
Shiner	5,500	400	5,500	400										
Smelt	10,000	1,200	8,600	1,100	1,500	100								
Squeteague	180,000	6,800	12,000	600	163,000	6,000	5,500	300						
Striped bass	6,500	800	1,800	200	3,000	300			400	100	1,400	200		
Suckers	66,000	3,000	42,000	2,000					100	(2)	23,000	900		
Swordfish	240,000	15,000											240,000	15,000
Tautog	119,000	4,600			57,000	2,100	62,000	2,400					100	(2)
Tilefish	4,700	100					4,700	100						
Tomcod, or frostfish	1,800	100	1,500	100							400	(2)		
All other	5,000	300	2,000	100					100	(2)	2,100	100		
Lobster	661,000	84,000			(2)	(2)							661,000	84,000
Squid	21,000	400			21,000	400								
Clams, hard	[4] 100,000	20,000											[4] 100,000	20,000
Clams, soft	[5] 42,000	5,500											[5] 42,000	5,500
Oysters, market, from public areas	[6] 44,000	4,400											[6] 44,000	4,400
Oysters, market, from private areas	[7] 9,718,000	1,163,000											[7] 9,718,000	1,163,000
Oysters, seed, from public areas	[8] 1,478,000	99,000											[8] 1,478,000	99,000
Oysters, seed, from private areas	[9] 16,396,000	1,317,000											[9] 16,396,000	1,317,000
Mussels	[10] 7,200	200											[10] 7,200	200
Mussel shells	[11] 5,403,000	5,400											[11] 5,403,000	5,400
Oil, sea-elephant	[12] 88,000	3,600											[12] 88,000	3,600
Oil, whale and sperm	[13] 280,000	20,000											[13] 280,000	20,000
Fur-seal skins	[14] 1,400	6,000											[14] 1,400	6,000
Whalebone	1,700	7,200											1,700	7,200

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 33,189,000 pounds, valued at $2,614,000; pots, eel and lobster, 712,000 pounds, valued at $89,000; harpoons, spears, etc., 533,000 pounds, valued at $43,000; firearms, 88,000 pounds, valued at $3,600; and minor apparatus, 1,400 pounds, valued at $6,000.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 13,000 bushels.
[5] 4,200 bushels.
[6] 6,300 bushels.
[7] 1,388,000 bushels.
[8] 211,000 bushels.
[9] 2,342,000 bushels.
[10] 700 bushels.
[11] 90,000 bushels.
[12] 12,000 gallons.
[13] 37,000 gallons.
[14] 200 skins.

TABLE 2.—CONNECTICUT—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Pound and trap nets.		Gill nets.		Lines.		Fyke nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	9,162,000	$268,000	1,107,000	$22,000	918,000	$17,000	115,000	$16,000	163,000	$6,600	112,000	$5,000	6,748,000	$201,000
Fish:														
Alewives	992,000	12,000	858,000	10,000	120,000	1,200	4,500	(2)			8,200	300		
Bluefish	7,200	600	300	(2)	600	100			5,800	500	500	(2)		
Butterfish	31,000	1,300			31,000	1,300								
Carp, German	7,600	600	7,400	600							200	(2)		
Cod	42,000	1,500			5,800	200			37,000	1,400				
Eels	110,000	9,000	36,000	2,500	6,700	400					6,600	800	60,000	5,300
Flatfish and flounders	404,000	12,000	62,000	1,900	254,000	7,000			32,000	1,000	56,000	1,800	200	(2)
Hake, silver	49,000	500			49,000	500								
Mackerel	8,300	600			2,600	100			5,700	500				
Menhaden	374,000	2,400	58,000	1,400	306,000	900	2,800	(2)			6,800	(2)		
Perch	7,600	400	5,400	300			(2)	(2)			2,200	200		
Pickerel	2,500	200	1,500	100							1,000	100		
Pollack	15,000	400							15,000	400				
Scup	3,900	100			3,900	100								
Sea bass	9,000	600			1,000	100			8,000	500				
Shad	122,000	18,000	5,600	800	7,200	900	107,000	16,000			2,700	400		
Shiner	5,500	400	5,500	400										
Smelt	10,000	1,200	8,600	1,100	1,500	100								
Squeteague	106,000	3,900	12,000	600	89,000	3,100			5,500	300				
Striped bass	4,700	700	1,800	200	1,200	200	400	100			1,400	200		
Suckers	66,000	3,000	42,000	2,000			100	(2)			23,000	900		
Swordfish	2,800	200											2,800	200
Tautog	77,000	2,800			22,000	800			54,000	2,100				
Tomcod, or frostfish	1,800	100	1,500	100							400	(2)		
All other	5,000	300	2,000	100	900	100	100	(2)			2,100	100		
Lobster	544,000	69,000			(2)	(2)							544,000	69,000
Squid	15,000	300			15,000	300								
Clams, hard	[4] 84,000	17,000											[4] 84,000	17,000
Clams, soft	[5] 41,000	5,400											[5] 41,000	5,400
Oysters, market, from public areas	[6] 36,000	3,400											[6] 36,000	3,400
Oysters, market, from private areas	[7] 287,000	38,000											[7] 287,000	38,000
Oysters, seed, from public areas	[8] 651,000	43,000											[8] 651,000	43,000
Oysters, seed, from private areas	[9] 179,000	15,000											[9] 179,000	15,000
Mussels	[10] 500	(2)											[10] 500	(2)
Mussel shells	[11] 4,863,000	4,700											[11] 4,863,000	4,700

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 6,141,000 pounds, valued at $126,000; pots, 593,000 pounds, valued at $73,000; harpoons, spears, etc., 14,000 pounds, valued at $1,300.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 11,000 bushels.
[5] 4,100 bushels.
[6] 5,100 bushels.
[7] 41,000 bushels
[8] 93,000 bushels.
[9] 26,000 bushels.
[10] 100 bushels.
[11] 81,000 bushels.

TABLE 3.—CONNECTICUT—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Lines.		Pound and trap nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	57,780,000	$2,713,000	28,290,000	$94,000	937,000	$35,000	711,000	$26,000	27,841,000	$2,559,000
Fish:										
Alewives	34,000	300					34,000	300		
Butterfish	71,000	2,800					71,000	2,800		
Cod	778,000	25,000			772,000	25,000	6,000	200		
Flatfish and flounders	303,000	9,600			48,000	2,000	255,000	7,700		
Haddock	24,000	900			24,000	900				
Hake, silver	130,000	1,600					130,000	1,600		
Halibut	8,500	600			8,500	600				
Mackerel	114,000	8,200	27,000	2,700	17,000	1,000	4,000	300	66,000	4,300
Menhaden	28,262,000	91,000	28,258,000	91,000			4,000	(2)		
Pollack	10,000	400	4,500	200	5,500	200				
Scup	91,000	8,400					91,000	8,400		
Sea bass	52,000	4,800			50,000	4,700			1,100	100
Squeteague	74,000	2,900					74,000	2,900		
Striped bass	1,800	100					1,800	100		
Swordfish	237,000	14,000							237,000	14,000
Tautog	42,000	1,700			7,500	300	34,000	1,400	100	(2)
Tilefish	4,700	100			4,700	100				
All other	1,900	100	700	100			1,200	100		
Lobster	117,000	15,000							117,000	15,000
Squid	6,000	100					6,000	100		
Clams, hard	[3] 16,000	3,500							[3] 16,000	3,500
Clams, soft	[4] 800	100							[4] 800	100
Oysters, market, from public areas	[5] 8,400	1,000							[5] 8,400	1,000
Oysters, market, from private areas	[6] 9,431,000	1,125,000							[6] 9,431,000	1,125,000
Oysters, seed, from public areas	[7] 827,000	56,000							[7] 827,000	56,000
Oysters, seed, from private areas	[8] 16,217,000	1,302,000							[8] 16,217,000	1,302,000
Mussels	[9] 6,700	200							[9] 6,700	200
Mussel shells	[10] 540,000	600							[10] 540,000	600
Oil, sea-elephant	[11] 88,000	3,600							[11] 88,000	3,600
Oil, whale and sperm	[12] 280,000	20,000							[12] 280,000	20,000
Fur-seal skins	[13] 1,400	6,000							[13] 1,400	6,000
Whalebone	1,700	7,200							1,700	7,200

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 27,048,000 pounds, valued at $2,488,000; harpoons, spears, etc., 519,000 pounds, valued at $42,000; pots, 119,000 pounds, valued at $15,000; gill nets, 66,000 pounds, valued at $4,300; firearms, 88,000 pounds, valued at $3,600; and minor apparatus, 1,400 pounds, valued at $6,000.
[2] Less than $100.
[3] 2,000 bushels.
[4] 100 bushels.
[5] 1,200 bushels.
[6] 1,347,000 bushels.
[7] 118,000 bushels.
[8] 2,317,000 bushels.
[9] 700 bushels.
[10] 9,000 bushels.
[11] 12,000 gallons.
[12] 37,000 gallons.
[13] 200 skins.

DELAWARE.

Delaware, though ranking twenty-first in the total value of its fishery products, was second in the menhaden fisheries. Judged by value of products, the oyster industry led and the menhaden fisheries were a close second, these two industries combined being credited with 59 per cent of the value of all the fishery products of the state. The chief fishing grounds of Delaware are the Atlantic Ocean, Delaware Bay and Delaware River, Rehoboth Bay, Indian River, and Mispillion and Broad Kiln Creeks; products are also reported from a number of minor waters, such as Herring Creek, Pepper Creek, Nanticoke River, and others. A general summary of the industry for 1908 is given in the following statement:

Number of persons employed	1,756
Capital:	
Vessels and boats, including outfit	$372,000
Apparatus of capture	63,000
Shore and accessory property	9,500
Value of products	541,000

Comparison with previous canvasses.—The following tabular statement shows the principal statistics of the fisheries of Delaware for 1908, in comparison with those reported by the Bureau of Fisheries for 1897 and 1904:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	1,744	$435,000	$372,000	$63,000	[1] 70,769,000	$541,000
1904	1,495	104,000	69,000	35,000	5,608,000	260,000
1897	2,008	123,000	77,000	46,000	8,648,000	252,000

[1] Includes menhaden (59,815,000 pounds, valued at $152,000). This fish was reported separately in 1904 and in 1897.

Persons employed.—The report of the Bureau of Fisheries for the year 1904 showed 1,495 persons employed in the fisheries of Delaware, not including shoresmen. The distribution of the persons employed in 1908 was as follows:

CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	1,756	[1] 853	903	[2] $146,000
Vessel fisheries	488	46	442	105,000
Transporting vessels	10	3	7	700
Shore and boat fisheries	1,246	804	442	39,000
Shoresmen	12		12	1,000

[1] Exclusive of eight proprietors not fishing.
[2] Includes provisions furnished to the value of $15,000.

Over 70 per cent of the total number were employed in the shore and boat fisheries, and more than one-half of the total number were wage-earners, independent fishermen being relatively not so numerous in this state as in the South Atlantic and the Gulf states. Although the number of persons fishing on their own account and not employing any wage-earners is not ascertainable, yet it is apparent that of the 804 proprietors and independent fishermen engaged in shore and boat fisheries, one-half or more were independent fishermen. Of the 442 wage-earners in the vessel fisheries, 266, or more than one-half, were employed in the menhaden fisheries.

Equipment and other capital.—The following tabular statement shows the capital invested in the industry and its distribution, by class of investment, together with the number and tonnage of the vessels and the number of the boats:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$444,000		
Vessels, including outfit	334,000	65	1,629
Fishing	329,000	61	1,578
Steam and motor	277,000	12	1,141
Vessels	233,000		
Outfit	44,000		
Sail	52,000	49	437
Vessels	42,000		
Outfit	10,000		
Transporting (sail)	5,400	4	51
Vessels	4,900		
Outfit	400		
Boats	38,000	792	
Steam and motor	25,000	116	
Sail	3,500	62	
Row	9,500	614	
Apparatus of capture	63,000		
Vessel fisheries	24,000		
Shore and boat fisheries	38,000		
Shore and accessory property	9,500		

More than one-half of the capital was invested in steam vessels. Of the 12 reported, 11, with a total tonnage of 1,136, were employed in menhaden fisheries, and 1, of 5 tons, in oyster dredging.

The total investment in vessels, both fishing and transporting, aggregated $334,000, the investment in boats $38,000, and the investment in apparatus of capture $63,000. Of the latter, $24,000 pertained to vessel fisheries and $38,000 to shore and boat fisheries.

The investment in fishing and transporting vessels and in apparatus of capture for vessels aggregated $358,000, of which 93 per cent represents the value of vessels and 7 per cent that of apparatus of capture. In the shore and boat fisheries the investment in boats and apparatus of capture combined was $77,000, an amount which was about equally divided. The number of each kind of apparatus used was as follows:

Bow nets	4	Muskrat traps	16,461
Cast nets	5	Pound nets	9
Dip nets	168	Seines	261
Eel and lobster pots	3,167	Spears	113
Fyke and hoop nets	1,806	Stop nets	15
Gill nets	865	Turtle nets	13

All of the apparatus enumerated above, except 1 gill net and 23 seines, was used in shore and boat fisheries.

Products, by species.—Table 1, on page 99, gives the weight and value of the fishery product of the state, distributed by species and by apparatus of capture.

The product of the menhaden fisheries was the most important, if measured by market values, for, although the total value of the oyster product was greater, one-third of the latter represented seed oysters and but two-thirds market oysters. In quantity the menhaden catch largely exceeded that of all other fishery products, amounting in net weight to nearly 60,000,000 pounds, compared with about 11,000,000 pounds for all other fishery products. Even if the oyster catch is considered on the basis of gross weight at an average of 80 pounds per bushel, instead of on the basis of contained meat, the menhaden catch is still in excess of all other products in the ratio of approximately 30,000 net tons to 19,000 net tons.

Products, by class of fisheries.—Table 2, on page 99, gives the products of the vessel fisheries, distributed according to apparatus of capture. The vessel fishery products were limited practically to menhaden and oysters. With the exception of the products of the menhaden and oyster fisheries which are shown in Table 2, and the small amount of shad and squeteague shown in the same table, all the products given in Table 1, on page 99, were reported by the shore and boat fisheries. Of these species, the portions belonging to the shore and boat fisheries were as follows: Menhaden, 54,000 pounds, valued at $2,400; shad, 868,000 pounds, valued at $68,000; squeteague, 2,587,000 pounds, valued at $29,000; market oysters from public areas, 159,000 pounds (representing 23,000 bushels), valued at $8,400; market oysters from private areas, 28,000 pounds (representing 4,000 bushels), valued at $1,000; and seed oysters from public areas, 338,000 pounds (representing 48,000 bushels), valued at $12,000. The total products of the shore and boat fisheries in 1908 were 9,092,000 pounds, having a value of $244,000. Of these products, 4,327,000 pounds, having a value of $69,000, were caught with seines; 1,073,000 pounds, having a value of

$85,000, with gill nets; and 531,000 pounds, having a value of $23,000, with dredges and tongs, and the remainder with the other forms of apparatus as specified in Table 1, page 99. The chief products of the shore and boat fisheries were in the order of value: shad, $68,000; squeteague, $29,000; muskrats and muskrat skins, $24,000; oysters, $21,000; eels, $15,000; and white perch, $14,000.

The distribution of the catch by chief products and by class of fisheries was as follows:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$541,000	$297,000	$244,000
Fish	328,000	150,000	179,000
Menhaden	152,000	149,000	2,400
Shad	68,000	100	68,000
Squeteague	29,000	200	29,000
Eels	15,000	.....	15,000
Perch, white	14,000	.....	14,000
Alewives	8,400	.....	8,400
Catfish	7,300	.....	7,300
Striped bass	7,300	.....	7,300
Carp, German	6,700	.....	6,700
All other	20,000	.....	20,000
Oysters and clams	170,000	147,000	23,000
Crabs and lobster	14,000	.....	14,000
Turtles and terrapin	4,500	.....	4,500
Muskrats and muskrat skins	24,000	.....	24,000
Frogs	700	.....	700

Products, by apparatus of capture.—The total value of the fishery products was distributed according to apparatus of capture as follows:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908. Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$541,000	$297,000	$244,000
Seines	219,000	150,000	69,000
Dredges, tongs, etc.	170,000	147,000	23,000
Gill nets	85,000	100	85,000
Muskrat traps	24,000	.....	24,000
Eel and lobster pots	14,000	.....	14,000
Dip nets	8,400	.....	8,400
Fyke and hoop nets	7,300	.....	7,300
Lines	6,100	.....	6,100
All other	8,400	.....	8,400

The catch in seines led in value and constituted nine-tenths of all products in quantity. The chief species caught in this way were menhaden and squeteague. The products taken by dredges and tongs consisted almost entirely of oysters. Shad, sturgeon, and striped bass were the leading species taken with gill nets; and catfish and carp the leading species taken with fyke and hoop nets.

Oysters.—The oyster yield was 348,000 bushels, valued at $169,000, and contributed 31 per cent of the value of all products. Of the total quantity, 155,000 bushels were market oysters, chiefly from private areas, and 193,000 bushels seed oysters, almost entirely from public areas. The distribution of the oyster product is shown by the following tabular statement:

KIND AND SOURCE	OYSTER PRODUCT: 1908. Quantity (bushels).	Value.
Total	348,000	$169,000
From public areas	211,000	64,000
From private areas	136,000	105,000
Market oysters	155,000	112,000
From public areas	25,000	10,000
From private areas	129,000	102,000
Seed oysters	193,000	57,000
From public areas	186,000	53,000
From private areas	7,000	3,500

Oysters from private areas averaged much higher in value than those from public areas, the market oysters from private areas having an average value of 79 cents per bushel, compared with 40 cents for those from public areas. Of the market oysters, 83 per cent, in quantity, were from private areas, while 96 per cent of the seed oysters were from public areas and but 4 per cent from private areas.

Other shellfish.—The clam product consisted of 900 bushels of hard clams, of a value of $1,300, while the lobster product, likewise small, amounted to 5,500 pounds, valued at $800. The crab catch, it should be noted, included a large quantity of king or horseshoe crabs, which are used chiefly as fertilizers. The food crabs comprised soft-shell crabs, valued at $8,400, and hard-shell crabs, valued at $600.

Squeteague and shad.—The squeteague, or sea trout, is the most abundant of the food fishes, and in quantity the catch formed nearly one-half of them. In value, however, it was greatly exceeded by shad, which represented nearly two-fifths of the value of all food-fish products, although only one-eighth of their quantity. The bulk of the squeteague catch was made with seines and the bulk of the shad catch with gill nets.

Muskrats.—The muskrat industry was important, inasmuch as it not only contributed products of a considerable amount but furnished employment, in whole or in part, to a large number of men. The animal is trapped chiefly for its skin. The meat, however, is used to a considerable extent, the sale of 110,000 pounds, valued at $3,800, being reported in 1908. The value of this meat has been included in the sum of $24,000 shown in the tables as the value of muskrat skins. The method of reporting muskrats varied greatly. In most cases the number or weight of the skins was reported and their value, regardless of whether they were sold alone and the carcasses discarded, or the animals were sold entire, or the skins and carcasses were marketed separately. Hence for the purpose of tabulation the total value in the general tables has been credited to the skins. The average value of a muskrat carcass was 5 cents and of a skin from 25 to 30 cents.

TABLE 1.—DELAWARE—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL. Quantity (pounds).	Value.	PRODUCT CAUGHT BY— Seines. Quantity (pounds).	Value.	Gill nets. Quantity (pounds).	Value.	Fyke and hoop nets. Quantity (pounds).	Value.	Lines. Quantity (pounds).	Value.	Pound nets. Quantity (pounds).	Value.	All other apparatus.[1] Quantity (pounds).	Value.
Total	70,769,000	$541,000	64,091,000	$219,000	1,075,000	$85,000	165,000	$7,300	206,000	$6,100	11,000	$400	5,220,000	$224,000
Fish:														
Alewives	794,000	8,400	705,000	7,300	59,000	800	25,000	200	.....	.....	4,500	(2)	.....	.....
Black bass	2,100	200	700	100	300	(2)	400	(2)	700	100	.....	.....	1,700	100
Carp, German	133,000	6,700	84,000	4,200	26,000	1,300	21,000	1,100	.....	.....	.....	.....	5,000	300
Catfish	151,000	7,300	56,000	2,900	4,800	200	81,000	3,800	1,900	100	1,500	100	.....	.....
Cod	7,000	400	.....	.....	.....	.....	.....	.....	7,000	400	.....	.....	.....	.....
Croaker	79,000	2,900	55,000	1,700	7,900	400	.....	.....	15,000	700	.....	.....	.....	.....
Eels	202,000	15,000	23,000	1,600	.....	.....	7,000	500	.....	.....	100	(2)	171,000	13,000
Flounders	17,000	1,300	11,000	800	6,000	400	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish	1,800	200	1,800	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Menhaden	59,815,000	152,000	59,815,000	152,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mullet	27,000	1,000	17,000	600	6,700	300	3,400	200	.....	.....	.....	.....	.....	.....
Perch, white	173,000	14,000	138,000	11,000	24,000	2,000	6,200	500	2,500	200	3,000	200	.....	.....
Perch, yellow	18,000	1,700	17,000	1,600	.....	.....	600	(2)	.....	.....	.....	.....	.....	.....
Pike and pickerel	11,000	1,100	8,200	800	300	(2)	400	(2)	2,500	300	.....	.....	.....	.....
Shad	870,000	68,000	10,000	700	859,000	67,000	.....	.....	.....	.....	.....	.....	.....	.....
Spot	15,000	1,300	5,500	400	9,400	900	.....	.....	.....	.....	.....	.....	.....	.....
Squeteague, or sea trout	2,590,000	29,000	2,467,000	27,000	5,900	300	1,600	100	114,000	1,300	1,500	100	.....	.....
Striped bass	53,000	7,300	23,000	3,000	29,000	4,200	300	(2)	100	(2)	.....	.....	.....	.....
Sturgeon	31,000	3,200	.....	.....	31,000	3,200	.....	.....	.....	.....	.....	.....	.....	.....
Caviar	3,100	3,900	.....	.....	3,100	3,900	.....	.....	.....	.....	.....	.....	.....	.....
Suckers	9,900	300	6,600	200	300	(2)	2,500	100	500	(2)	.....	.....	.....	.....
Tautog	55,000	2,800	.....	.....	.....	.....	.....	.....	55,000	2,800	.....	.....	.....	.....
All other	5,300	100	4,800	100	.....	.....	.....	.....	300	(2)	200	(2)	.....	.....
Frogs	1,900	700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,900	700
Crabs, hard	57,000	600	55,000	600	500	(2)	.....	.....	1,000	(2)	.....	.....	.....	.....
Crabs, soft	142,000	8,400	1,000	(2)	700	(2)	.....	.....	.....	.....	.....	.....	140,000	8,400
Crabs, king	2,980,000	4,300	580,000	700	.....	.....	.....	.....	.....	.....	.....	.....	2,400,000	3,600
Lobster	5,500	800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,500	800
Turtles	54,000	2,500	4,700	200	.....	.....	15,000	700	5,200	200	.....	.....	29,000	1,400
Terrapin	2,900	1,900	200	200	.....	.....	.....	.....	.....	.....	.....	.....	2,700	1,700
Clams, hard	[3]6,900	1,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3]6,900	1,300
Oysters, market, from public areas	[4]177,000	10,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4]177,000	10,000
Oysters, market, from private areas	[5]905,000	102,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5]905,000	102,000
Oysters, seed, from public areas	[6]1,303,000	53,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6]1,303,000	53,000
Oysters, seed, from private areas	[7]49,000	3,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7]49,000	3,500
Skins, muskrat	[8]22,000	24,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8]22,000	24,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 2,441,000 pounds, valued at $170,000: muskrat traps, 22,000 pounds, valued at $24,000; eel and lobster pots, 174,000 pounds, valued at $14,600; dip nets, 140,000 pounds, valued at $8,400; harpoons, spears, etc., 23,000 pounds, valued at $2,000; stop nets, 2,300 pounds, valued at $1,600; turtle traps, 11,000 pounds, valued at $500; bow and cast nets, 6,700 pounds, valued at $400; and minor apparatus, 2,400,000 pounds, valued at $3,600.
[2] Less than $100. [3] 900 bushels. [4] 25,000 bushels. [5] 129,000 bushels. [6] 186,000 bushels. [7] 7,000 bushels. [8] 75,000 skins.

TABLE 2.—DELAWARE—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL. Quantity (pounds).	Value.	PRODUCT CAUGHT BY— Seines. Quantity (pounds).	Value.	Dredges, tongs, etc. Quantity (pounds).	Value.	Gill nets. Quantity (pounds).	Value.
Total	61,677,000	$297,000	59,765,000	$150,000	1,910,000	$147,000	1,500	$100
Fish:								
Menhaden	59,762,000	149,000	59,762,000	149,000	.....	.....	.....	.....
Shad	1,500	100	.....	.....	.....	.....	1,500	100
Squeteague	3,000	200	3,000	200	.....	.....	.....	.....
Oysters, market, from public areas	[1]18,000	2,000	.....	.....	[1]18,000	2,000	.....	.....
Oysters, market, from private areas	[2]877,000	101,000	.....	.....	[2]877,000	101,000	.....	.....
Oysters, seed, from public areas	[3]966,000	41,000	.....	.....	[3]966,000	41,000	.....	.....
Oysters, seed, from private areas	[4]49,000	3,500	.....	.....	[4]49,000	3,500	.....	.....

[1] 2,600 bushels. [2] 125,000 bushels. [3] 138,000 bushels. [4] 7,000 bushels.

FLORIDA.

During the last three decades the fisheries of Florida have grown steadily in the value of their products, and in 1908 the state held fifth rank in this respect. It has a natural monopoly of the sponge fisheries of the United States, contributed two-thirds, in value, of the mullet product, and was surpassed in the value of its shad product only by Virginia and North Carolina.

Florida has the longest coast line of any state in the Union, measuring about 450 miles on the Atlantic Ocean and 675 miles on the Gulf of Mexico. The Atlantic coast is remarkably free from indentation, but is bordered throughout almost its entire length by sand reefs that inclose long lagoons, sounds, and bays (often misnamed rivers), in which fish abound. The principal fishing grounds on this coast are the following waters, in geographical order: St. Marys, St. Johns, and Matanzas Rivers, Lake George, Mosquito Lagoon, Indian River, Biscayne Bay, St. Lucie River, and Lake Worth.

The Gulf coast, like the Atlantic coast, is low, but it is much less regular and is intersected by the estuaries of a number of rivers and by numerous bays, sounds, and lagoons. Following the indentations, the western coast line of Florida measures approximately 2,810 miles. Nearly all of the shore fishing on this coast, as along the eastern coast, is pursued in the shallow waters shut in from the open sea by keys and lowland spits. The principal indentations along the Gulf coast where commercial fishing is carried on are the following: The bays known as Pensacola, Escambia, Choctawhatchee, St. Andrews, and St. Joseph, St. Vincent Sound, Apalachicola Bay, St. George's Sound, Waccassassee, Clearwater, Tampa, Hillsboro, and Sarasota Bays, Charlotte Harbor, and Gasparilla and San Carlos Bays. Among the rivers the Apalachicola, Withlacoochee, Homosassa, Anclote, and Manatee are the principal fishing grounds.

The following table presents a general summary of the statistics of the fishing industry of the state for 1908:

Number of persons employed	9,212
Capital:	
Vessels and boats, including outfit	$1,421,000
Apparatus of capture	326,000
Shore and accessory property and cash	668,000
Value of products	3,389,000

Comparison with previous canvasses.—If the figures are compared with those reported for former years, a steady increase in the importance of the fishing industry of the state is observed. A comparison with such preceding years for which figures are available is given below, the number of shoresmen and the investment in shore and accessory property and cash capital being excluded:

DISTRICT AND YEAR.	Persons employed, exclusive of shoremen.	VALUE OF EQUIPMENT. Total.	Vessels and boats, including outfit.	Apparatus of capture.	PRODUCTS. Quantity. (pounds).	Value.
Total:						
1908	9,006	$1,747,000	$1,421,000	$326,000	74,087,000	$3,389,000
1902	7,846	1,298,000	1,126,000	172,000	67,704,000	1,940,000
1897	5,658	708,000	620,000	88,000	34,138,000	1,081,000
1890	4,776	769,000	682,000	87,000	34,882,000	1,284,000
Gulf of Mexico district:						
1908	5,850	1,338,000	1,143,000	195,000	37,566,000	2,120,000
1902	5,579	1,139,000	1,044,000	95,000	48,120,000	1,462,000
1897	4,667	651,000	596,000	54,000	28,255,000	945,000
1890	[1] 3,602	699,000	650,000	50,000	27,419,000	1,064,000
Atlantic Ocean district:						
1908	3,156	409,000	278,000	131,000	36,521,000	1,269,000
1902	2,267	159,000	82,000	77,000	19,584,000	478,000
1897	991	57,000	24,000	33,000	5,883,000	136,000
1890	1,174	70,000	32,000	38,000	7,462,000	220,000

[1] Alligator hunters not included.

Persons employed.—The total number of persons employed in the fisheries of the state in 1908 was 9,212, or, exclusive of shoresmen, 9,006.

The following tabular statement shows the distribution of the persons employed, as reported at the census of 1908.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908. Number. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Salaries and wages. Total.	Salaries.	Wages.
Total	9,212	[1] 3,288	41	5,883	$1,414,000	$43,000	[2] $1,371,000
Vessel fisheries	2,106	74	17	2,015	540,000	23,000	517,000
Transporting vessels	165	11	16	138	61,000	14,000	46,000
Shore and boat fisheries	6,735	3,203	8	3,524	741,000	5,700	736,000
Shoresmen	206	.....	.....	206	72,000	.....	72,000
Gulf of Mexico district	6,016	960	41	4,985	1,234,000	43,000	1,191,000
Vessel fisheries	1,961	60	17	1,884	527,000	23,000	504,000
Transporting vessels	147	10	16	121	58,000	14,000	44,000
Shore and boat fisheries	3,742	930	8	2,814	577,000	5,700	572,000
Shoresmen	166	.....	.....	166	72,000	.....	72,000
Atlantic coast district	3,196	2,298	.....	898	180,000	.....	180,000
Vessel fisheries	145	14	.....	131	13,000	.....	13,000
Transporting vessels	18	1	.....	17	2,600	.....	2,600
Shore and boat fisheries	2,993	2,283	.....	710	164,000	.....	164,000
Shoresmen	40	.....	.....	40	300	.....	300

[1] Exclusive of 273 proprietors not fishing.

[2] Includes provisions furnished to the value of $270,000.

The Gulf coast fisheries employed nearly two-thirds of all the fishermen of the state and 93 per cent of those engaged in the vessel fisheries.

The fishermen engaged in the shore and boat fisheries of the Atlantic coast were to a large extent independent fishermen, only 710 wage-earners being employed by the 2,283 persons classed as proprietors and independent fishermen in the returns of these fisheries. On the other hand, a large majority of the fishermen employed in the shore and boat fisheries of the Gulf were wage-earners. Of those engaged in the Atlantic coast fisheries, nearly 94 per cent were in the shore and boat fisheries, while only 62 per cent of those engaged in the Gulf fisheries belonged to this class.

Equipment and other capital.—The following table gives the value of the equipment in vessels, boats, and apparatus of capture and the amount of other capital employed:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Gulf of Mexico district.	Atlantic coast district.
Total	$2,416,000	$1,884,000	$531,000
Vessels, including outfit	846,000	798,000	48,000
Fishing	680,000	645,000	35,000
Steam and motor	29,000	9,900	19,000
Vessels	25,000	9,100	16,000
Outfit	4,300	800	3,400
Sail	651,000	635,000	17,000
Vessels	487,000	472,000	15,000
Outfit	165,000	163,000	1,700
Transporting	166,000	154,000	12,000
Steam and motor	78,000	69,000	8,600
Vessels	60,000	54,000	6,000
Outfit	18,000	16,000	2,000
Sail	88,000	84,000	3,800
Vessels	47,000	44,000	3,300
Outfit	41,000	41,000	500
Boats	575,000	345,000	230,000
Steam and motor	280,000	113,000	167,000
Sail	192,000	166,000	26,000
Row	79,000	44,000	35,000
Diving	22,000	22,000	.....
Other	1,300	.....	1,300
Apparatus of capture	326,000	195,000	131,000
Vessel fisheries	64,000	59,000	5,300
Shore and boat fisheries	262,000	136,000	125,000
Shore and accessory property	469,000	347,000	122,000
Cash	200,000	200,000	200

The following table gives the statistics in respect to the number and tonnage of the vessels and the number of the boats used in the fisheries:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908. Total.	Gulf of Mexico district.	Atlantic coast district.
Vessels, number	327	288	39
Fishing, number	250	221	29
Steam and motor—			
Number	12	6	6
Tonnage	125	67	58
Sail—			
Number	238	215	23
Tonnage	4,341	4,049	292
Transporting, number	77	67	10
Steam and motor—			
Number	27	22	5
Tonnage	316	273	43
Sail—			
Number	50	45	5
Tonnage	518	465	53
Boats, number	919	282	637
Steam and motor	1,377	1,065	312
Sail	3,288	1,468	1,820
Row	112	112	.....
Diving	6	.....	6
Other			

The total investment was $2,416,000, of which $1,884,000, or 78 per cent, was reported from the Gulf coast, and $531,000, or 22 per cent, from the Atlantic coast. Not including the value of shore and accessory property and cash capital, the amount invested in the fishing industry of the state was $1,747,000, compared with an investment of $1,298,000 reported by the Bureau of Fisheries in 1902. The investment in fishing and transporting vessels was $846,000 and in boats $575,000, making a total investment in floating craft of $1,421,000. Of this amount, $1,143,000, or 80 per cent, pertained to the Gulf fisheries.

The investment in apparatus of capture in the shore and boat fisheries of Florida largely exceeded that for the vessel fisheries. The total investment in floating craft was, however, greater for the vessel fisheries. The number of the various kinds of apparatus of capture employed is shown for each district and for each class of fisheries in the following tabular statement:

KIND.	APPARATUS OF CAPTURE: 1908. Total.	Distributed by districts. Gulf of Mexico district.	Atlantic coast district.	Distributed by class of fisheries. Vessel fisheries.	Shore and boat fisheries.
Cast nets	402	55	347	.....	402
Dip nets	70	20	50	.....	70
Fyke nets	10	10	.....	.....	10
Gill nets	3,640	2,143	1,497	71	3,569
Guns	364	135	229	1	363
Pots, eel	3	3	.....	.....	3
Pound nets	26	26	.....	.....	26
Seines	702	236	466	10	692
Shrimp nets	3	3	.....	.....	3
Spears	432	165	267	10	422
Trammel nets	140	140	.....	.....	140
Traps, fish	700	300	400	.....	700
Traps, otter	5,962	3,712	2,250	.....	5,962
Turtle nets	38	38	.....	.....	38

Products, by species.—The fishery products of the state, distributed by species and by apparatus of capture, are given in Table 1, on page 106.

In 1908 the mullet fishery led in value of catch and was followed by the sponge fishery and the red snapper fishery. These three fisheries contributed nearly one-half of the total value of products.

The total product of the state in 1908 was 74,087,000 pounds, valued at $3,389,000. Marked gains are shown over the total quantities as reported for earlier years.

Products, by fishing grounds.—The fishery product of the Gulf coast of Florida, distributed by species and by apparatus of capture, is presented in Table 2, page 107.

The sponge fishery was the most important on the Gulf coast, having a total product of 622,000 pounds, valued at $545,000. This constituted the entire sponge product of the United States, and represented 26 per cent of the total value of products of the Gulf coast fisheries of Florida. Following the sponge fishery closely in the value of their product were the mullet and red snapper fisheries. The product of the

red-snapper fisheries of the Gulf district was 7,659,000 pounds, valued at $432,000, which represented over 99 per cent of the total value reported for the red-snapper catch of the state, and 57 per cent in quantity and 68 per cent in value, of the total catch of the species reported for the United States.

Table 3, on page 108, gives the products of the Atlantic coast fisheries of Florida, distributed by species and by apparatus of capture.

Measured by value of products, the shad fishery was the most important in the Atlantic coast district. All but 3,600 pounds of the shad catch of the state was taken in the Atlantic coast waters. The oyster product consisted entirely of market oysters. Prawn was an important item, the yield amounting to 4,152,000 pounds, valued at $84,000, the entire product of the state being reported from this district. Shrimps, on the other hand, were reported from both the Atlantic coast and the Gulf of Mexico.

The value of products reported for 1908, by principal species arranged in order of importance, is shown in the following table for the state as a whole and for the Gulf of Mexico and Atlantic coast fisheries.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Atlantic coast district.
Total	$3,389,000	$2,120,000	$1,269,000
Fish	2,337,000	1,324,000	1,013,000
Mullet, including roe	652,000	475,000	177,000
Red snapper	434,000	432,000	2,400
Shad	320,000	200	320,000
Squeteague	196,000	63,000	133,000
Spanish mackerel	122,000	71,000	51,000
Pompano	65,000	30,000	35,000
Black bass	58,000	2,500	55,000
Catfish	54,000	18,000	36,000
Bream, or sunfish	50,000	5,800	44,000
Bluefish	45,000	28,000	17,000
Sheepshead	38,000	17,000	21,000
Drum (salt-water), or channel bass	38,000	22,000	16,000
Grouper	34,000	33,000	1,400
Sailor's choice	32,000	8,000	24,000
Crevallé	24,000	5,300	19,000
All other	174,000	113,000	61,000
Sponges	545,000	545,000	.....
Oysters	296,000	187,000	109,000
Shrimp and prawn	92,000	400	91,600
Alligator hides	48,000	27,000	21,000
Otter skins	21,000	10,000	11,000
All other	50,000	26,000	23,000

In the fisheries of the Atlantic coast the value of shad, mullet, and squeteague constituted about one-half of the total value of products; and in the fisheries of the Gulf the value of sponges, mullet, and red snapper constituted more than two-thirds of the total value of products.

Products, by class of fisheries.—The products of the shore and boat fisheries for 1908 are shown in detail, by species and by apparatus of capture, in Table 4, on page 109.

The total catch of the shore and boat fisheries was 63,992,000 pounds, or 86 per cent of the total for the state, and its value was $2,459,000, or 73 per cent of the total for the state. Among the shore and boat fisheries the mullet fishery was the most important, contributing 26 per cent of the total value of products; shad ranked second, with 13 per cent of the total value; and oysters third, with 12 per cent.

The distribution between the vessel fisheries and the shore and boat fisheries of the value reported for the leading species in 1908 is given below:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,389,000	$930,000	$2,459,000
Fish	2,337,000	476,000	1,861,000
Mullet, including roe	652,000	4,200	648,000
Red snapper	434,000	418,000	16,000
Shad	320,000	.....	320,000
Squeteague	196,000	(1)	196,000
Spanish mackerel	122,000	19,000	104,000
Pompano	65,000	600	64,000
Black bass	58,000	.....	58,000
Catfish	54,000	.....	54,000
Bream, or sunfish	50,000	.....	50,000
Bluefish	45,000	1,000	44,000
Sheepshead	38,000	100	38,000
Drum (salt-water), or channel bass	38,000	100	38,000
Grouper	34,000	24,000	9,500
Sailor's choice	32,000	(1)	32,000
Crevallé	24,000	600	23,000
All other	174,000	8,000	166,000
Sponges	545,000	436,000	109,000
Oysters	296,000	9,500	287,000
Shrimp and prawn	92,000	.....	92,000
Alligator hides	48,000	.....	48,000
Otter skins	21,000	.....	21,000
All other	50,000	8,600	41,000

[1] Less than $100.

The shore and boat fisheries of the Gulf waters had a total catch of 28,216,000 pounds, valued at $1,215,000, which represented 44 per cent in quantity and 49 per cent in value of the shore and boat catch of the state. Of the total products of the Gulf coast fisheries of the state, 75 per cent in quantity and 57 per cent in value were reported by the shore and boat fisheries. In the shore and boat fisheries of the Gulf the catch of mullet exceeded in value that of any other species, representing about one-third of the total value of all products of the fisheries in question. Oysters were next in value and sponges third.

The total catch of the shore and boat fisheries in the waters tributary to the Atlantic Ocean was 35,776,000 pounds, with a value of $1,244,000, representing 56 per cent in quantity and 51 per cent in value of the shore and boat catch of the state. Of the total products of the Atlantic coast fisheries of the state, the shore and boat fisheries were credited with 98 per cent both in quantity and in value.

The products of the vessel fisheries for 1908 are presented in detail, by species and by apparatus of capture, in table 5, on page 110.

The total catch of the vessel fisheries of Florida was 10,094,000 pounds, valued at $930,000, representing 14 per cent in quantity and 27 per cent in value of all fishery products of the state. In this class of fisheries the sponge product was the largest item in value, and snappers ranked second. The total of these two products was $854,000, or 92 per cent of the total value of the products of all vessel fisheries of the state.

The sponge and red snapper products of the vessel fisheries of the Gulf coast together had a value of $851,000, or 94 per cent of the total for the fisheries in question. The total catch of the vessel fisheries in the Atlantic waters was 745,000 pounds, valued at $25,000, which represents 7 per cent in quantity and 3 per cent in value of the total products of the vessel fisheries of the state. Of the total products of the Atlantic fisheries of the state, the products of the vessel fisheries formed 2 per cent both in quantity and in value.

Products, by apparatus of capture.—The distribution of the total value of products for 1908 by apparatus of capture is given in the following tabular statement for the state as a whole and for the vessel fisheries and the shore and boat fisheries, respectively:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,389,000	$930,000	$2,459,000
Gill nets	1,133,000	18,000	1,115,000
Lines	617,000	452,000	165,000
Seines	606,000	15,000	591,000
Sponge hooks and diving equipment	545,000	436,000	109,000
Dredges, tongs, etc	304,000	9,500	295,000
Firearms	48,000	.....	48,000
Trammel nets	27,000	.....	27,000
Fish traps	25,000	.....	25,000
Cast nets	23,000	.....	23,000
Otter traps	21,000	.....	21,000
All other	38,000	100	38,000

The value of the products caught by gill nets forms a larger percentage of the total value than that for any other apparatus of capture. This class of apparatus was used to a greater or less extent in the capture of nearly all of the numerous species of fish proper reported, although 70 per cent of the total value of the gill-net catch represents the combined value of mullet and shad. The use of gill nets was practically confined to the shore and boat fisheries. The next highest value of products was reported for the catch by lines. The red snapper, which constituted 70 per cent of the total line catch in value, was taken exclusively with lines.

The following tabular statement shows the total value of fishery products, distributed by apparatus of capture, for the state and for the Gulf and the Atlantic coast waters, respectively:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Atlantic coast district.
Total	$3,389,000	$2,120,000	$1,269,000
Gill nets	1,133,000	559,000	574,000
Lines	617,000	534,000	83,000
Seines	606,000	193,000	414,000
Sponge hooks and diving equipment	545,000	545,000	.....
Dredges, tongs, etc	304,000	187,000	117,000
Firearms	48,000	27,000	21,000
Trammel nets	27,000	27,000	.....
Fish traps	25,000	6,500	19,000
Cast nets	23,000	1,500	22,000
Otter traps	21,000	10,000	11,000
All other	38,000	29,000	9,000

Mullet.—While the total product of the state's mullet fishery in 1908, including roe (24,716,000 pounds), was considerably less than the catch of 1902 (32,289,000 pounds), it was larger than for any other year for which statistics are available. The increase in the price per pound was sufficient, however, to raise the total value of the product from $473,000 in 1902 to $652,000 in 1908, an increase in value of 38 per cent, compared with a decrease in weight of 24 per cent. Mullet contributed only 19 per cent of the value of the state's fishery products in 1908, but constituted one-third of the aggregate weight of all such products. Practically all of the mullet was taken in the shore and boat fisheries, less than 1 per cent being the product of vessel fisheries. Seventy-two per cent of the total value of this product was reported for the Gulf fisheries.

The principal apparatus of capture employed in the mullet fishery was gill nets, by means of which mullet valued at $542,000 was caught, representing 83 per cent of the total value of the state's mullet catch. Seines ranked next, the value of the amount taken in this way forming 14 per cent of the total value reported for this species. The remaining 2 per cent represents the catch by means of trammel nets, cast nets, and dip nets.

Of the mullet product, 1,046,000 pounds, valued at $39,000, was reported as having been salted, and 135,000 pounds consisted of mullet roe, valued at $15,000.

Sponges.—As already indicated, the sponge fishery belongs exclusively to the Gulf coast district. It is subject to marked fluctuations from year to year, and for a few years following 1900 it appeared to be on a decline. The statistics for 1908, however, show a large increase both in quantity and in value of product; the quantity exceeded that reported for any prior year, and the value was exceeded only by that reported for the year 1900. The average prices per pound for the different grades and for the product as a whole are, however, lower than they have been for a number of years for which statistics are available. As the sponge fisheries of Florida represent the entire industry in the United States, the statistics in regard to the persons employed, the equipment in vessels, boats, and apparatus, and the capital are herewith presented.

In 1908 there were employed in the sponge fisheries 143 sailing vessels, which aggregated 2,200 tons and were valued at $186,000. These vessels carried 88 diving boats and 367 other boats. The investment in outfit was $103,000. The total investment in vessels, boats, and their outfit was $337,000 for the vessel fisheries. In the shore and boat sponge fisheries, 567 additional boats of all kinds, valued at $102,000, were used. Their value, added to the foregoing, makes a total investment of $439,000 in vessels, boats, and outfits in connection with the sponge industry. The 567 boats employed in the shore and boat sponge fisheries consisted of 2 motor boats, 175 sailboats, 356

rowboats, and 34 diving boats. In the sponge fisheries as a whole, 122 diving boats, having a value of $40,000, were used.

Persons employed in the sponge fisheries in 1908, exclusive of 172 proprietors not fishing, formed a total of 2,097, distributed as follows: 125 proprietors and independent fishermen; 1 salaried employee; and 1,971 wage-earners, who received $437,000 in wages (including provisions furnished to the value of $132,000). The persons reported for the vessel fisheries, exclusive of 90 proprietors not fishing, numbered 1,466, and comprised 32 proprietors and independent fishermen, 1 salaried employee, and 1,433 wage-earners, receiving wages to the amount of $343,000 (including provisions furnished to the value of $95,000). In the shore and boat fisheries 631 persons were employed, of whom 93 were proprietors (exclusive of 82 not fishing), and 538 wage-earners, who received wages to the amount of $93,000 (inclusive of provisions to the value of $37,000).

The total investment in apparatus of capture was $78,000, which comprised hooks and diving apparatus to the value of $76,000, and nets and other fishing apparatus to the value of $1,300, reported by certain of the vessel sponge fishers who had a fish catch. Of the total investment in the sponge industry in apparatus of capture, $55,000 was credited to the vessel fisheries and $22,000 to the shore and boat fisheries. The investment in shore and accessory property for the sponge fisheries was $4,900, practically all of which was reported by the shore and boat fisheries.

In the following tabular statement the sponge catch for 1908 is shown in detail, classified according to kind or grade of product, and according to apparatus of capture, whether taken by hooks or with diving apparatus:

KIND.	SPONGE PRODUCT: 1908.					
	TOTAL.		TAKEN BY—			
			Hooks.		Diving apparatus.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	622,000	$545,000	233,000	$177,000	389,000	$367,000
Sheepswool	310,000	481,000	132,000	156,000	177,000	324,000
Yellow	191,000	43,000	43,000	9,700	148,000	33,000
Grass	110,000	17,000	54,000	8,700	56,000	8,600
Glove	1,300	500	1,300	500	.....	.....
Velvet	2,700	2,000	2,700	2,000	.....	.....
Wire	8,500	1,400	100	(1)	8,400	1,400

[1] Less than $100.

The catch with diving apparatus represented approximately two-thirds of the total value, and the catch with hooks one-third.

In the following tabular statement the quantity and value of the sponge product for 1908 are compared with the figures for a series of years as reported by the Bureau of Fisheries:

YEAR.	SPONGE PRODUCT.									
	Total.		Sheepswool.		Yellow.		Grass.		All other.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	622,000	$545,000	310,000	$481,000	191,000	$43,000	110,000	$17,000	12,000	$4,000
1902	347,000	364,000	134,000	298,000	57,000	31,000	141,000	30,000	16,000	5,800
1901	396,000	493,000	205,000	423,000	63,000	39,000	109,000	24,000	22,000	6,700
1900	418,000	568,000	181,000	483,000	74,000	44,000	145,000	33,000	19,000	7,100
1897	304,000	368,000	154,000	332,000	56,000	16,000	77,000	14,000	18,000	5,000
	332,000	286,000	157,000	241,000	32,000	13,000	129,000	29,000	13,000	3,200
1896	236,000	273,000	150,000	245,000	24,000	9,300	45,000	12,000	18,000	4,000
1895	396,000	387,000	251,000	363,000	30,000	12,000	21,000	5,500	24,000	6,500
1890	367,000	439,000	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1889	317,000	381,000	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
1880	207,000	201,000	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

[1] Not reported separately.

Red snapper.—The red-snapper fishery has increased steadily in importance, as shown by the following tabular statement of the product for a number of years:

YEAR.	RED-SNAPPER PRODUCT.	
	Quantity (pounds).	Value.
1908	7,719,000	$434,000
1902	8,074,000	237,000
1897	5,314,000	171,000
1895	4,886,000	155,000
1890	4,173,000	124,000
1889	3,469,000	106,000
1880	223,000	8,900

The increase in both quantity and value of product since 1880 is remarkable, while the average value per pound for 1908 represents a great advance over that for the earlier years shown. This fishery was confined almost entirely to the Gulf waters, and the catch was made exclusively with lines.

Shad.—The shad fishery was by far the most important of the Atlantic coast district, contributing 25 per cent of the value of all products of these waters in 1908. Shad ranked third in value among the fish of the state, representing 9 per cent of the value of all products. Compared with the catch for 1902, which was 1,819,000 pounds, valued at $125,000, the product of 1908 shows an increase of 56 per cent in quantity and of 156 per cent in value. The value of the products of this fishery has increased remarkably, having been only $20,000 in 1880 and only $42,000 in 1890. In value of the shad catch in 1908 Florida was surpassed only by Virginia and North Carolina, although in respect to quantity Maryland and New Jersey ranked ahead of it. The entire catch was made in the shore and boat fisheries with gill nets and seines.

Oysters.—In respect to the value of products the oyster fishery of Florida holds fifth place among the fisheries of the state. The total product in 1908 was 1,067,000 bushels, valued at $296,000, or 9 per cent of the total value of the fishery products of the state. About one-third of the value of the products was reported from the Atlantic coast waters and the remainder from the Gulf waters. The oyster fishery was conducted principally by the shore and boat fisheries, which reported 97 per cent of the total value of the oyster product. Compared with 1902 the product of Florida shows a decrease of 737,000 bushels, or 41 per cent, in quantity, and of $69,000, or 19 per cent, in value. It is noteworthy that this decrease has taken place entirely in the Atlantic coast district, where the value of the oyster catch decreased from $220,000 in 1902 to $109,000 in 1908, while on the Gulf coast there was an increase from $124,000 in 1902 to $187,000 in 1908.

Squeteague.—The squeteague, or sea trout, ranks next to the oyster in respect to value of product. In 1908, 4,864,000 pounds of this fish, having a value of $196,000, were caught, as compared with only 2,757,000 pounds, having a value of $73,000, in 1902. About two-thirds of the catch was taken in the Atlantic coast fisheries, and practically all in the shore and boat fisheries. The catch was made principally with gill nets and seines. The product includes 54,000 pounds reported as sold salted.

Alligators.—Among the important fishery industries of Florida, though the value of the product is comparatively small, is the alligator industry. About three-fourths of all the alligators killed in the United States in 1908 were killed in Florida, the product aggregating 51,000 hides, valued $48,000. This represents a large increase over 1902, when only 31,000 hides, valued at $18,000, were secured. No data are given for this industry in the 1880 report of the Bureau of Fisheries. In the 1890 report it was estimated that not less than 2,500,000 alligators were killed between 1880 and 1890, and it was stated that the numbers had been greatly reduced because of the nonmigratory habits and the remarkably slow growth of the animal, and because of the killing of many alligators before they had reached the reproductive age. The product of the Gulf coast alone in 1890 was 49,000 alligator hides, valued at $35,000, and 84,000 alligator feet, valued at $4,200. No data were compiled by the Bureau of Fisheries for the Atlantic coast. In 1908 hides valued at $27,000, or 56 per cent of the total value of alligator products, were secured from the Gulf coast rivers, and hides valued at $21,000 from the Atlantic coast rivers.

Otters.—The otter-skin product of the state is a substantial one and in 1908 formed more than two-thirds of the otter-skin catch of the entire country. The total for the state was 2,900 skins, having a value of $21,000, compared with 3,300 skins, having a value of $18,000, in 1902. Thus, while the quantity decreased, the value increased.

TABLE 1.—FLORIDA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Trammel nets.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	74,087,000	$3,389,000	29,803,000	$1,133,000	12,747,000	$617,000	20,400,000	$606,000	792,000	$27,000	653,000	$23,000	9,691,000	$982,000
Fish:														
Alewives	1,224,000	5,500					1,224,000	5,500						
Amber-fish	38,000	1,600			38,000	1,600			500	(2)				
Angel-fish	70,000	3,100	33,000	1,600	1,100	100	22,000	700	4,000	100			9,900	600
Barracuda	45,000	3,100	700	(2)	30,000	2,100	600	(2)					14,000	1,000
Black bass	1,070,000	58,000	2,500	200	467,000	27,000	376,000	19,000	4,500	200	1,500	100	218,000	12,000
Bluefish	952,000	45,000	340,000	18,000	84,000	4,800	485,000	20,000	42,000	1,900				
Bonito	11,000	900			11,000	900	200	(2)						
Bream, or sunfish	1,547,000	50,000	13,000	600	16,000	900	1,215,000	38,000			2,300	100	299,000	10,000
Butterfish	16,000	400	5,700	100			11,000	300						
Catfish	1,481,000	54,000	500	(2)	259,000	8,700	977,000	27,000	200	(2)			244,000	17,000
Cobia	123,000	2,800	52,000	1,500	100	(2)	71,000	1,300			100	(2)		
Crevallé	1,435,000	24,000	81,000	2,600	1,250,000	19,000	81,000	2,300	23,000	500				
Croaker	94,000	2,100	15,000	400	2,500	100	73,000	1,500			3,000	100		
Drum (salt-water), or channel bass	1,426,000	38,000	514,000	15,000	121,000	2,900	641,000	14,000	109,000	4,100	41,000	1,600		
Flounders	185,000	8,100	49,000	1,900	100	(2)	55,000	2,200	7,500	400	1,000	100	72,000	3,500
Grouper	1,276,000	34,000	74,000	3,500	1,185,000	30,000	9,300	400					8,000	400
Grunts	388,000	19,000	86,000	4,400	281,000	14,000	11,000	500					10,000	500
Hickory shad	198,000	8,000	172,000	6,900			27,000	1,100						
Hogfish	81,000	4,800	15,000	900	57,000	3,500	4,200	200					4,300	300
Jewfish	14,000	1,100			14,000	1,100								
Jurel	52,000	900			8,800	400	32,000	400	12,000	100			100	(2)
Ladyfish	345,000	9,000	1,400	100			320,000	8,400	24,000	500				
Margate-fish	3,500	300	1,900	200	1,300	100							300	(2)
Moonfish	18,000	900	6,000	300			11,000	600	1,500	(2)				
Mullet	24,582,000	637,000	20,892,000	534,000			3,117,000	87,000	361,000	10,000	197,000	5,100	15,000	300
Mullet roe	135,000	15,000	86,000	8,300			49,000	7,100						
Mutton-fish	417,000	9,600	52,000	800	61,000	3,900	288,000	4,300			16,000	600		
Permit	24,000	1,000	8,800	300	2,600	100	5,700	200					7,000	300
Pigfish	109,000	1,800	6,800	200	600	(2)	100,000	1,500			1,200	(2)		
Pompano	508,000	65,000	374,000	49,000	5,100	1,000	120,000	14,000	8,000	800				
Porgy, or scup	133,000	6,900	16,000	900	110,000	5,700	4,600	100					2,600	200
Porkfish	35,000	2,800	16,000	1,300	15,000	1,200							3,900	300
Round robin	26,000	500					22,000	400	3,000	100				
Sailor's choice	1,257,000	32,000	328,000	11,000	60,000	4,700	776,000	13,000	6,000	200	85,000	3,400	1,700	100
Sardines	22,000	1,100					22,000	1,100						
Sea bass	154,000	6,600	28,000	1,000	47,000	3,100	78,000	2,500	700	(2)				
Shad	2,836,000	320,000	2,168,000	256,000			668,000	64,000						
Sheepshead	1,571,000	38,000	553,000	15,000	38,000	1,200	876,000	18,000	82,000	3,200	22,000	900		
Snapper, red	7,719,000	434,000			7,719,000	434,000								
Snapper, other	342,000	15,000	186,000	7,500	56,000	4,100	76,000	1,900	18,000	700	800	(2)	5,800	500
Spanish mackerel	2,647,000	122,000	1,248,000	63,000	235,000	12,000	1,146,000	46,000	19,000	1,000				
Spot	178,000	4,200	32,000	1,000	1,000	(2)	123,000	2,500	9,500	200	12,000	400		
Squeteague	4,864,000	196,000	1,985,000	85,000	85,000	4,600	2,728,000	94,000	56,000	2,800	10,000	700		
Strawberry bass, or crappie	180,000	7,400	1,200	100			177,000	7,300					2,000	100
Striped bass	9,000	1,000	9,000	1,000										
Sturgeon	62,000	5,000	62,000	5,000										
Caviar and sturgeon roe	200	200	200	200										
Whiting, or kingfish	230,000	8,600	42,000	1,500	37,000	1,500	151,000	5,500			1,200	100		
Yellowtail	170,000	14,000	56,000	5,500	75,000	7,300	32,000	900	1,000	(2)			8,000	800
All other	350,000	17,000	38,000	1,800	262,000	12,000	47,000	2,600					3,200	100
Crabs, hard	148,000	2,900			66,000	1,900	5,000	100					77,000	900
Crabs, stone	62,000	3,700	6,800	400	40,000	2,600							15,000	700
Shrimp and prawn	4,353,000	92,000					4,106,000	82,000			240,000	9,000	8,000	400
Spiny lobster, or crawfish	53,000	2,600	13,000	600							20,000	1,000	20,000	1,000
Terrapin	21,000	9,400	6,600	2,600			10,000	5,000					3,800	1,800
Turtles	163,000	11,000	126,000	11,000	5,000	100	26,000	700					5,100	100
Tortoise shell	300	1,300	300	1,300										
Sponges	622,000	545,000											622,000	545,000
Conchs	15,000	[3] 1,000											15,000	[3] 1,000
Clams, hard	[4] 239,000	15,000											[4] 239,000	15,000
Oysters, market, from public areas	[5] 7,327,000	284,000											[5] 7,327,000	284,000
Oysters, market, from private areas	[6] 141,000	12,000											[6] 141,000	12,000
Scallops	[7] 400	100											[7] 400	100
Hides, alligator	[8] 254,000	48,000											[8] 254,000	48,000
Skins, otter	[9] 5,700	21,000											[9] 5,700	21,000
Oil, sperm	[10] 28,000	1,900											[10] 28,000	1,900

[1] Includes apparatus, with catch, as follows: Sponge hooks and diving apparatus, 622,000 pounds, valued at $545,000; dredges, tongs, etc., 7,506,000 pounds, valued at $304,000; firearms, 254,000 pounds, valued at $48,000; fish traps, 517,000 pounds, valued at $25,600; otter traps, 5,700 pounds, valued at $21,000; pound nets, 295,000 pounds, valued at $18,000; spears, 119,000 pounds, valued at $6,100; dip nets, 92,000 pounds, valued at $1,200; shrimp nets, 8,000 pounds, valued at $400; fyke nets, 4,000 pounds, valued at $300; and minor apparatus, 268,000 pounds, valued at $12,000.

[2] Less than $100.

[3] Includes pearls, valued at $300.

[4] 30,000 bushels.

[5] 1,047,000 bushels.

[6] 20,000 bushels.

[7] 50 gallons.

[8] 51,000 hides.

[9] 2,900 skins.

[10] 3,800 gallons.

TABLE 2.—FLORIDA—FISHERY PRODUCTS OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Trammel nets.		Pound nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	37,566,000	$2,120,000	15,834,000	$559,000	10,004,000	$534,000	5,708,000	$193,000	792,000	$27,000	295,000	$18,000	4,934,000	$790,000
Fish:														
Amber-fish	38,000	1,600			37,000	1,600					500	(2)		
Angel-fish	67,000	3,000	33,000	1,600	1,100	100	20,000	700			4,000	100	2,100	100	7,700	500
Barracuda	44,000	3,100			30,000	2,100									14,000	1,000
Black bass	37,000	2,500	2,000	200	12,000	800					4,500	200	16,000	1,100	2,000	100
Bluefish	580,000	28,000	202,000	12,000	11,000	1,700	325,000	13,000			42,000	1,900				
Bonito	11,000	900			11,000	900	200	(2)								
Bream, or sunfish	138,000	5,800	13,000	600	14,000	800	11,000	400					97,000	3,900	2,000	100
Butterfish	16,000	400	5,700	100			11,000	200								
Catfish	246,000	18,000			30,000	2,000	2,000	100			200	(2)	132,000	9,200	82,000	6,500
Cobia, or snooks	41,000	1,500	32,000	1,100			9,000	400								
Crevallé	175,000	5,300	58,000	2,200	22,000	600	72,000	2,100	23,000	500						
Drum (salt-water), or channel bass	608,000	22,000	279,000	10,000			217,000	7,800	109,000	4,100					3,000	100
Flounders	86,000	3,900	35,000	1,500			27,000	1,100	7,500	400					16,000	1,000
Grouper	1,231,000	33,000	74,000	3,500	1,140,000	29,000	9,300	400					7,500	400		
Grunts	384,000	19,000	82,000	4,300	281,000	14,000	11,000	500					10,000	500		
Hogfish	81,000	4,800	15,000	900	57,000	3,400	4,200	200					4,300	300		
Jewfish	14,000	1,100			14,000	1,100										
Jurel	52,000	900			8,800	400	32,000	400	12,000	100	100	(2)				
Ladyfish	345,000	9,000	1,400	100			320,000	8,400	24,000	500						
Margate-fish	3,500	300	1,900	200	1,300	100					300	(2)				
Moonfish	18,000	900	6,000	300			11,000	600	1,500	(2)						
Mullet	16,008,000	459,000	12,708,000	365,000			2,936,000	84,000	361,000	10,000					4,000	200
Mullet roe	135,000	15,000	86,000	8,300			49,000	7,100								
Mutton-fish	41,000	3,100			41,000	3,100										
Permit	24,000	1,000	8,800	300	2,600	100	5,500	200							7,000	300
Pompano	232,000	30,000	179,000	24,000	5,000	1,000	40,000	4,300	8,000	800						
Porgy, or scup	133,000	6,900	16,000	900	110,000	5,700	4,600	100			2,600	200				
Porkfish	35,000	2,800	16,000	1,300	15,000	1,200					3,900	300				
Round robin	26,000	500					22,000	400	3,000	100						
Sailor's choice	125,000	8,000	35,000	2,000	58,000	4,600	25,000	1,000	6,000	200	1,700	100				
Sardines	22,000	1,100					22,000	1,100								
Sea bass	43,000	1,500	28,000	1,000			15,000	500	700	(2)						
Shad	3,600	200	3,600	200												
Sheepshead	473,000	17,000	261,000	9,600			130,000	4,600	82,000	3,200					200	(2)
Snapper, red	7,659,000	432,000			7,659,000	432,000										
Snapper, other	232,000	13,000	131,000	6,300	48,000	3,800	30,000	1,200	18,000	700	5,800	500				
Spanish mackerel	1,419,000	71,000	504,000	36,000	28,000	2,800	868,000	31,000	19,000	1,000						
Spot	48,000	1,600	13,000	500			21,000	700	10,000	200					5,000	200
Squeteague	1,207,000	63,000	768,000	44,000	700	(2)	382,000	16,000	56,000	2,800						
Sturgeon	6,500	600	6,500	600												
Caviar and sturgeon roe	200	200	200	200												
Whiting, or kingfish	37,000	1,400	18,000	700	200	(2)	18,000	700								
Yellowtail	169,000	14,000	56,000	5,500	73,000	7,300	31,000	900	1,000	(2)	8,000	800				
All other	287,000	14,000	11,000	700	252,000	12,000	23,000	1,600			200	(2)				
Crabs, hard	2,400	200													2,400	200
Crabs, stone	62,000	3,700	6,800	400	40,000	2,600					900	100			14,000	600
Shrimp	8,000	400													8,000	400
Spiny lobster, or crawfish	53,000	2,600	13,000	600							1,800	100			38,000	1,900
Terrapin	2,600	1,000	2,000	800											600	200
Turtles	134,000	11,000	124,000	10,000			4,900	200							5,100	100
Tortoise shell	300	1,300	300	1,300												
Sponges	622,000	545,000													622,000	545,000
Conchs	15,000	[3] 1,000													15,000	[3] 1,000
Clams, hard	[4] 182,000	5,800													[4] 182,000	5,800
Oysters, market, from public areas	[5] 3,721,000	182,000													[5] 3,721,000	182,000
Oysters, market, from private areas	[6] 43,000	4,600													[6] 43,000	4,600
Scallops	[7] 400	100													[7] 400	100
Hides, alligator	[8] 136,000	27,000													[8] 136,000	27,000
Skins, otter	[9] 2,800	10,000													[9] 2,800	10,000

[1] Includes apparatus, with catch, as follows: Sponge hooks and diving apparatus, 622,000 pounds, valued at $545,000; dredges, tongs, etc., 3,773,000 pounds, valued at $187,000; firearms, 136,000 pounds, valued at $27,000; otter traps, 2,800 pounds, valued at $10,000; fish traps, 82,000 pounds, valued at $6,300; spears, 62,000 pounds, valued at $3,500; cast nets, 33,000 pounds, valued at $1,500; shrimp nets, 8,000 pounds, valued at $400; fyke nets, 4,000 pounds, valued at $300; dip nets, 2,400 pounds, valued at $200; and minor apparatus, 208,000 pounds, valued at $7,400.

[2] Less than $100.

[3] Includes pearls, valued at $300.

[4] 203,000 bushels.

[5] 532,000 bushels.

[6] 6,100 bushels.

[7] 50 gallons.

[8] 27,000 hides.

[9] 1,400 skins.

TABLE 3.—FLORIDA—FISHERY PRODUCTS OF ATLANTIC COAST DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Fish traps.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds)	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	36,521,000	$1,269,000	13,969,000	$574,000	2,743,000	$83,000	14,692,000	$414,000	435,000	$19,000	620,000	$22,000	4,061,000	$158,000
Fish:														
Alewives	1,220,000	5,400					1,220,000	5,400						
Black bass	1,034,000	56,000	500	(2)	456,000	26,000	376,000	19,000	200,000	11,000	1,500	100		
Bluefish	372,000	17,000	139,000	6,200	73,000	3,100	160,000	7,400						
Bream, or sunfish	1,409,000	44,000			2,300	100	1,204,000	38,000	200,000	6,000	2,300	100		
Catfish	1,235,000	36,000	500	(2)	229,000	6,700	975,000	27,000	30,000	1,600				
Cobia, or sergeant-fish	82,000	1,300	20,000	400	100	(2)	62,000	900			100	(2)		
Crevallé	1,260,000	19,000	23,000	500	1,228,000	18,000	8,700	200						
Croaker	92,000	2,000	15,000	400	2,500	100	71,000	1,400			3,000	100		
Drum (salt-water), or channel bass	818,000	16,000	235,000	4,600	121,000	2,900	424,000	6,700			38,000	1,500		
Flounders	99,000	4,100	14,000	500	100	(2)	28,000	1,100			100	(2)	57,000	2,600
Grouper	45,000	1,400												
Grunts	4,400	100	4,000	100	45,000	1,400								
Hickory shad	198,000	8,000	172,000	6,900	200	(2)	100	(2)						
Mullet, including roe	8,573,000	177,000	8,184,000	169,000			27,000	1,100						
Mutton-fish	376,000	6,500	52,000	800	20,000	800	181,000	3,000			193,000	4,900	15,000	300
							288,000	4,300			16,000	600		
Pickerel	3,000	100							3,000	100				
Pigfish	105,000	1,800	6,800	200	600	(2)	97,000	1,500			1,200	(2)		
Pompano	276,000	35,000	195,000	25,000	100	(2)	81,000	9,800						
Sailor's choice	1,132,000	24,000	294,000	8,800	3,000	100	751,000	12,000			85,000	3,400		
Sea bass	110,000	5,100			47,000	3,100	64,000	2,000						
Shad	2,833,000	329,000	2,164,000	255,000			668,000	64,000						
Sheepshead	1,098,000	21,000	291,000	5,700	38,000	1,200	746,000	13,000			22,000	800		
Snapper, red	60,000	2,400			60,000	2,400								
Snapper, other	110,000	2,200	55,000	1,200	8,100	200	46,000	700			800	(2)		
Spanish mackerel	1,228,000	51,000	744,000	27,000	207,000	9,300	278,000	15,000						
Spot	130,000	2,600	20,000	500	1,000	(2)	102,000	1,700			7,300	300		
Squeteague	3,657,000	133,000	1,217,000	51,000	84,000	4,600	2,346,000	77,000			10,000	700		
Strawberry bass and crappie	180,000	7,400	1,200	100			177,000	7,300	2,000	100				
Striped bass	9,000	1,000	9,000	1,000										
Sturgeon	55,000	4,400	55,000	4,400										
Whiting, or kingfish	194,000	7,200	24,000	800	36,000	1,500	133,000	4,800			1,200	100		
All other	75,000	2,500	29,000	1,100	10,000	200	36,000	1,200						
Crabs, hard	146,000	2,700			66,000	1,900	5,000	100					75,000	800
Shrimp and prawn	4,346,000	91,000					4,106,000	82,000			240,000	9,000		
Terrapin	18,000	8,500	4,600	1,800			10,000	5,000					3,200	1,600
Turtles	29,000	700	2,300	200	5,000	100	21,000	500						
Clams, hard	[3] 57,000	9,400											[3] 57,000	9,400
Oysters, market, from public areas	[4] 3,606,000	101,000											[4] 3,606,000	101,000
Oysters, market, from private areas	[5] 98,000	7,600											[5] 98,000	7,600
Hides, alligator	[6] 119,000	21,000											[6] 119,000	21,000
Skins, otter	[7] 3,000	11,000											[7] 3,000	11,000
Oil, sperm	[8] 28,000	1,900											[8] 28,000	1,900

[1] Includes apparatus with catch, as follows: Dredges, tongs, etc., 3,732,000 pounds, valued at $117,000; firearms, 119,000 pounds, valued at $21,000; otter traps, 3,000 pounds, valued at $11,000; spears, 57,000 pounds, valued at $2,600; dip nets, 90,000 pounds, valued at $1,000; and minor apparatus, 60,000 pounds, valued at $5,000.
[2] Less than $100.
[3] 7,200 bushels.
[4] 515,000 bushels.
[5] 14,000 bushels.
[6] 24,000 hides.
[7] 1,500 skins.
[8] 3,800 gallons.

TABLE 4.—FLORIDA—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Seines.		Trammel nets.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	63,992,000	$2,459,000	29,483,000	$1,115,000	4,186,000	$165,000	20,154,000	$591,000	792,000	$27,000	653,000	$23,000	8,723,000	$537,000
Fish:														
Alewives	1,224,000	5,500					1,224,000	5,500						
Amber-fish	34,000	1,300			33,000	1,300			500	(2)				
Angel-fish	69,000	3,000	33,000	1,600	1,100	100	22,000	700	4,000	100			9,100	500
Barracuda	41,000	2,800	700	(2)	27,000	1,900	600	(2)					12,000	900
Black bass	1,070,000	38,000	2,500	200	467,000	27,000	376,000	19,000	4,500	200	1,500	100	218,000	12,000
Bluefish	937,000	44,000	326,000	17,000	83,000	4,600	485,000	20,000	42,000	1,900				
Bonito	8,900	700			8,700	700	200	(2)						
Bream, or sunfish	1,547,000	50,000	13,000	600	16,000	900	1,215,000	38,000			2,300	100	299,000	10,000
Butterfish	16,000	400	5,700	100			11,000	200						
Catfish	1,481,000	54,000	500	(2)	259,000	8,700	977,000	27,000	200	(2)			244,000	17,000
Cobia	123,000	2,800	52,000	1,500	100	(2)	71,000	1,300			100	(2)		
Crevallé	1,403,000	23,000	80,000	2,600	1,218,000	18,000	81,000	2,200	23,000	500				
Croaker	94,000	2,100	15,000	400	2,500	100	73,000	1,500			3,000	100		
Drum (salt-water), or channel bass	1,427,000	38,000	512,000	15,000	121,000	2,900	641,000	14,000	109,000	4,100	41,000	1,600		
Flounders	185,000	8,100	49,000	1,900	100	(2)	55,000	2,200	7,500	400	1,000	100	72,000	3,500
Grouper	265,000	9,500	74,000	3,500	174,000	5,300	9,300	400					7,500	400
Grunts	341,000	17,000	86,000	4,400	234,000	11,000	11,000	500					10,000	500
Hickory shad	198,000	8,000	172,000	6,900			27,000	1,100						
Hogfish	70,000	4,600	15,000	900	55,000	3,300	4,200	200					4,300	300
Jewfish	14,000	1,100			14,000	1,100								
Jurel	52,000	900			8,800	400	32,000	400	12,000	100			100	(2)
Ladyfish	345,000	9,000	1,400	100			320,000	8,400	24,000	500			300	(2)
Margate-fish	3,500	300	1,900	200	1,300	100								
Moonfish	18,000	900	6,000	300			11,000	600	1,500	(2)				
Mullet	24,442,000	632,000	20,752,000	530,000			3,117,000	87,000	361,000	10,000	197,000	5,100	15,000	300
Mullet roe	135,000	15,000	86,000	8,300			49,000	7,100						
Mutton-fish	417,000	9,600	52,000	800	61,000	3,900	288,000	4,300			16,000	600		
Permit	24,000	1,000	8,800	300	2,400	100	5,700	200					7,000	300
Pigfish	109,000	1,800	6,800	200	600	(2)	100,000	1,500			1,200	(2)		
Pompano	505,000	64,000	373,000	49,000	3,300	600	120,000	14,000	8,000	800				
Porgy, or scup	117,000	6,100	16,000	900	93,000	4,900	4,600	100					2,600	200
Porkfish	34,000	2,700	16,000	1,300	14,000	1,100							3,900	300
Round robin	25,000	500					22,000	400	3,000	100				
Sailor's choice	1,257,000	32,000	328,000	11,000	60,000	4,700	776,000	13,000	6,000	200	85,000	3,400	1,700	100
Sardines	22,000	1,100					22,000	1,100						
Sea bass	114,000	3,800	28,000	1,000	7,000	300	78,000	2,500	700	(2)				
Shad	2,836,000	320,000	2,168,000	256,000			668,000	64,000						
Sheepshead	1,568,000	38,000	550,000	15,000	38,000	1,200	876,000	18,000	82,000	3,200	22,000	900		
Snapper, red	341,000	16,000			341,000	16,000								
Snapper, other	341,000	15,000	185,000	7,500	56,000	4,100	76,000	1,900	18,000	700	800	(2)	5,800	500
Spanish mackerel	2,332,000	104,000	1,180,000	60,000	232,000	12,000	901,000	31,000	19,000	1,000				
Spot	178,000	4,200	32,000	1,000	1,000	(2)	123,000	2,500	9,500	200	12,000	400		
Squeteague	4,864,000	196,000	1,985,000	95,000	85,000	4,600	2,728,000	94,000	56,000	2,800	10,000	700		
Strawberry bass and crappie	180,000	7,400	1,200	100			177,000	7,300					2,000	100
Striped bass	9,000	1,000	9,000	1,000										
Sturgeon	62,000	5,000	62,000	5,000										
Caviar and sturgeon roe	200	200	200	200										
Whiting, or kingfish	230,000	8,600	41,000	1,500	37,000	1,500	151,000	5,500			1,200	100		
Yellowtail	167,000	14,000	56,000	5,500	70,000	7,000	32,000	900	1,000	(2)			8,000	800
All other	334,000	16,000	38,000	1,800	246,000	11,000	47,000	2,600					3,200	100
Crabs, hard	148,000	2,900			66,000	1,900	5,000	100					77,000	900
Crabs, stone	62,000	3,700	6,800	400	40,000	2,600							15,000	700
Shrimp and prawn	4,353,000	92,400					4,106,000	82,000			240,000	9,000	8,000	400
Spiny lobster, or crawfish	52,000	2,600	13,000	600							20,000	1,000	19,000	900
Terrapin	21,000	9,400	6,600	2,600			10,000	5,000					3,800	1,800
Turtles	74,000	3,600	37,000	2,800	5,000	100	26,000	700					5,100	100
Tortoise shell	200	700	200	700										
Sponges	136,000	109,000											136,000	109,000
Conchs	15,000	[3] 1,000											15,000	[3] 1,000
Clams, hard	[4] 238,000	15,000											[4] 238,000	15,000
Oysters, market, from public areas	[5] 6,850,000	274,000											[5] 6,850,000	274,000
Oysters, market, from private areas	[6] 141,000	12,000											[6] 141,000	12,000
Scallops	[7] 400	100											[7] 400	100
Hides, alligator	[8] 254,000	48,000											[8] 254,000	48,000
Skins, otter	[9] 5,700	21,000											[9] 5,700	21,000
Oil, sperm	[10] 28,000	1,900											[10] 28,000	1,900

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 7,029,000 pounds, valued at $295,000; sponge hooks and diving apparatus, 136,000 pounds, valued at $109,000; firearms, 254,000 pounds, valued at $48,000; fish traps, 517,000 pounds, valued at $25,000; otter traps, 5,700 pounds, valued at $21,000; pound nets, 295,000 pounds, valued at $18,000; spears, 115,000 pounds, valued at $5,900; dip nets, 92,000 pounds, valued at $1,200; shrimp nets, 8,000 pounds, valued at $400; fyke nets, 4,000 pounds, valued at $300; and minor apparatus, 267,000 pounds, valued at $12,000.
[2] Less than $100.
[3] Includes pearls, valued at $300.
[4] 30,000 bushels.
[5] 979,000 bushels.
[6] 20,000 bushels.
[7] 50 gallons.
[8] 51,000 hides.
[9] 2,900 skins.
[10] 3,800 gallons.

TABLE 5.—FLORIDA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Gill nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,094,000	$930,000	320,000	$18,000	8,561,000	$452,000	1,214,000	$460,000
Fish:								
Amber-fish	4,100	200			4,100	200		
Angel-fish	1,200	100	500	(2)				
Barracuda	3,800	300			2,100	100	1,700	(2)
Bluefish	15,000	1,000	14,000	900	1,100	200		100
Bonito	2,200	200			2,200	200		
Crevallé	32,000	600	500	(2)	31,000	600		
Drum (salt-water), or channel bass	1,500	100	1,500	100				
Grouper	1,005,000	24,000			1,005,000	24,000		
Grunts	47,000	2,200			47,000	2,200		
Hogfish	1,900	100			1,900	100		
Mullet	140,000	4,200	140,000	4,200				
Mutton-fish	600	100			600	100		
Pompano	3,200	600	1,400	300	1,800	400		
Porgy, or scup	16,000	500			16,000	500		
Porkfish	1,000	100			1,000	100		
Sea bass	40,000	2,800			40,000	2,800		
Sheepshead	2,500	100	2,500	100				
Snapper, red	7,378,000	418,000			7,378,000	418,000		
Spanish mackerel	315,000	19,000	67,000	3,500	2,400	200	246,000	15,000
Yellowtail	3,600	400			3,600	400		
All other	19,000	900	2,500	100	17,000	800		
Spiny lobster, or crawfish	1,100	100					1,100	100
Turtles	89,000	7,700	89,000	7,700				
Tortoise shell	200	700	200	700				
Sponges	487,000	436,000					487,000	436,000
Clams, hard	[2]1,200	100					[2]1,200	100
Oysters, market, from public areas	[4]477,000	9,500					[4]477,000	9,500

[1] Includes apparatus, with catch, as follows: Sponge hooks and diving apparatus, 487,000 pounds, valued at $436,000; seines, 246,000 pounds, valued at $15,000; dredges, tongs, etc., 477,000 pounds, valued at $9,500; spears and hooks, 3,500 pounds, valued at $200; and minor apparatus, 1,600 pounds, valued at $100.
[2] Less than $100. [3] 200 bushels. [4] 68,000 bushels.

GEORGIA.

The fishery products of Georgia in 1908 had a value of $701,000. Oysters contributed nearly half of the value of the entire product, while shad and red snapper followed as other leading species. The principal fishing grounds are the Savannah, the Altamaha, and the Ogeechee Rivers, and the outlying ocean areas. Following is a general summary of the statistics:

Number of persons employed	2,525
Capital:	
Vessels and boats, including outfit	$169,000
Apparatus of capture	55,000
Shore and accessory property and cash	185,000
Value of products	701,000

Though this industry is relatively one of the minor industries of the state, it appears to be increasing in importance.

Comparison with previous canvasses.—The census report for 1880 stated that the sea fisheries of Georgia were at that time almost wholly undeveloped, but the following comparative summary shows that there has been a decided and progressive increase since then in practically every item:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	2,215	$223,009	$169,000	$55,000	14,828,000	$701,000
1902	1,674	122,000	101,000	22,000	11,103,000	359,000
1897	1,404	67,000	49,000	18,000	4,993,000	171,000
1880	1,421	51,000	37,000	15,000	2,994,000	124,000

The uniformity of development in the Georgia fisheries since 1890 is well demonstrated by the following comparative statement of the quantities and values of the chief species at each of the periods for which statistics are at hand:

YEAR.	FISHERY PRODUCTS.					
	Oysters.		Shad.		Red snapper.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	10,214,000	$339,000	1,333,000	$190,000	880,000	$30,000
1902	8,568,000	220,000	1,029,000	75,000	125,000	7,500
1897	3,406,000	87,000	788,000	47,000	(1)	(1)
1880	1,570,000	41,000	400,000	31,000	(1)	(1)

[1] Not reported separately.

The increase in the catch has not been so rapid in the case of shad as in that of some other varieties, but there has been a marked increase in the price since 1902. Red snappers were not mentioned in the report for 1897, but they occupied the third place in 1908.

Persons employed.—The statistics in regard to the number of persons employed in the fisheries of Georgia are given in the following tabular statement:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage earners.	Total.	Salaries.	Wages.
Total	2,525	[1]634	29	1,862	$338,000	$17,000	$320,000
Vessel fisheries	395	14	18	363	87,000	14,000	73,000
Transporting vessels	7			7	1,400		1,400
Shore and boat fisheries	1,813	620	11	1,182	201,000	3,500	197,000
Shoresmen	310			310	49,000		49,000

[1] Exclusive of 11 proprietors not fishing.

The seven persons employed on transporting vessels were connected with vessel fishery interests, while all the shoresmen were connected with the shore and boat fisheries. The comparison therefore shows a total of 2,123 persons for the shore and boat fisheries and of 402 for the vessel fisheries. The intermittent character of much of the employment is manifest from the low average individual wage.

Equipment and other capital.—The following table presents statistics in regard to the capital invested in the industry:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$408,000		
Vessels, including outfit	90,000	88	1,301
Fishing	85,000	86	1,255
Steam	24,000	15	155
Vessels	20,000		
Outfit	3,700		
Sail	61,000	71	1,100
Vessels	59,000		
Outfit	2,000		
Transporting (sail)	4,200	2	46
Vessels	4,000		
Outfit	200		
Boats	79,000		
Steam and motor	36,000	134	
Sail	24,000	596	
Row	19,000	2,059	
Other	700	2	
Apparatus of capture	55,000		
Vessel fisheries	3,100		
Shore and boat fisheries	51,000		
Shore and accessory property	185,000		
Cash	500		

Of the total investment, $130,000 was credited to vessel fisheries and $278,000 to shore and boat fisheries. The item showing the largest value is shore and accessory property, which was valued at $185,000. Of this amount, $37,000 belonged to vessel fishery interests and $148,000 to those of shore and boat fisheries. Craft of various kinds made up the next largest item, the value exclusive of outfits being $163,000. To this the value of vessels contributed $84,000 and that of boats $79,000. The entire amount of cash capital reported was from the shore and boat fisheries. That none was reported by the vessel fisheries is due partly to their close association with canneries whose accounts carry the items of capital. Sailing vessels were more important than steam vessels in number, tonnage, and value, but the greater part of the investment in outfits pertained to steam craft. Steam and motor boats, although less than one-fourth as numerous as sailboats, exceeded them in average value by more than 50 per cent. The bulk of the apparatus of capture was used in shore and boat fisheries, the largest investment being in gill nets. Lines and dredges, tongs, etc., were the only kinds of apparatus reported for the vessel fisheries. The number of the various kinds of apparatus in use in the shore and boat fisheries in 1908 was as follows:

Cast nets	333
Fyke and hoop nets	51
Gill nets	982
Pound nets	12
Seines	123
Spears	7
Stop nets	6
Traps, catfish	150
Traps, otter	325

Products, by species.—The quantity and value of the products of the Georgia fisheries are given, by species and by apparatus of capture, in the table on page 113. The value of the oyster product formed 48 per cent of that of all products. Shad and red snappers ranked second and third, respectively, in value of catch. All other species amounted to 2,401,000 pounds, valued at $142,000. Only three of these—prawn, catfish, and sea bass—appear in quantities exceeding 200,000 pounds, while terrapin was the only one for which a value above $20,000 was reported. The three leading species—oysters, shad, and red snappers—have contributed the bulk of the increase both in the quantity and in the value of fishery products since 1880, although their gain has been relatively no greater than that of the less important species.

Products, by class of fisheries.—The following tabular statement gives the product of vessel fisheries by species. The fish were taken by lines, and the oyster product (amounting to 4,509,000 pounds, valued at $117,000) was taken by dredges, tongs, etc.

SPECIES.	PRODUCTS OF VESSEL FISHERIES: 1908.	
	Quantity (pounds).	Value.
Total	5,774,000	$163,000
Fish	1,265,000	46,000
Grouper	160,000	2,900
Red snapper	880,000	30,000
Sea bass	225,000	13,000
Oysters, market, from public areas	[1] 1,125,000	37,000
Oysters, market, from private areas	[2] 3,384,000	81,000

[1] 161,000 bushels. [2] 483,000 bushels.

If the items given in the foregoing tabular statement be deducted from the table on page 113, the latter may be used as a table of the shore and boat fisheries. Groupers and red snappers were taken solely in the vessel fisheries, and only sea bass and market oysters appear in the catch of both vessel fisheries and shore and boat fisheries. The distribution of the products appearing in both the vessel and the shore and boat fisheries is shown in the following tabular statement:

SPECIES AND CLASS OF FISHERIES..	PRODUCTS COMMON TO VESSEL FISHERIES AND SHORE AND BOAT FISHERIES: 1908.	
	Quantity (pounds).	Value.
Sea bass	233,000	$14,000
Vessel fisheries	225,000	13,000
Shore and boat fisheries	8,000	500
Oysters, market	10,053,000	334,000
From public areas	[1] 3,484,000	121,000
Vessel fisheries	[2] 1,125,000	37,000
Shore and boat fisheries	[3] 2,359,000	84,000
From private areas	[4] 6,569,000	213,000
Vessel fisheries	[5] 3,384,000	81,000
Shore and boat fisheries	[6] 3,185,000	133,000

[1] 498,000 bushels. [2] 161,000 bushels. [3] 337,000 bushels. [4] 938,000 bushels. [5] 483,000 bushels. [6] 455,000 bushels.

Practically all of the sea bass was taken by vessel fisheries. The large factor in the catch of both classes of fisheries was market oysters, of which the vessel fisheries reported 644,000 bushels, valued at $117,000, and the shore and boat fisheries 792,000 bushels, valued at $217,000.

Products, by apparatus of capture.—As oysters represented the greater part of the weight and value of the Georgia fishery product, dredges, tongs, etc., were the leading forms of apparatus of capture. Except for hard clams, valued at $9,000, the entire product taken with dredges, tongs, etc., consisted of oysters. All the clams reported were taken by the shore and boat fisheries.

On the basis of weight of catch, lines were next in importance, with a catch of 1,810,000 pounds, valued at $74,000, followed by gill nets, with a catch of 1,721,000 pounds, valued at $213,000. On the basis of value of catch, the order is reversed. The total product of Georgia fisheries, exclusive of the catch by dredges and tongs, was 4,571,000 pounds, having a value of $353,000. Of this quantity, lines and gill nets took 3,532,000 pounds, valued at $287,000, and all the remaining varieties of apparatus 1,040,000 pounds, valued at $66,000. Among the products caught by lines the red snapper held first rank, with a weight of 880,000 pounds and a value of $30,000. Sea bass and groupers also stood high in the list. The gill-net capture, all by shore and boat fisheries, was chiefly shad. The principal catch with seines consisted of prawn, on the basis of quantity, and terrapin, on the basis of value.

Oysters.—Oysters were of greater relative importance in 1902 than in either 1890 or 1897, as will be seen by reference to the tabular statement on page 110. Between 1902 and 1908 the oyster industry made large gains, but the increase for that period was not so great as that for the previous five years. The rapid development made during the latter period and the few years preceding was largely the result of the market created by new canneries. Such was the growth that the Commissioner of Fisheries stated in his report for 1902, in regard to Georgia, that there was very little doubt that in years to come private oyster culture would have to be resorted to on a large scale in this state if the oyster supply were to be maintained.[1] Private oyster culture had been well started at that time, but no statistics of its extent were presented. The growth of this enterprise is indicated by the table on page 113, which shows that in 1908 the product from the private areas was much larger than that from public areas, amounting to a total of 952,000 bushels, as compared with only 507,000 bushels from the public areas. Except for the results of private culture, the oyster industry apparently would have shown a loss instead of a gain since 1902, as the product from public areas decreased from 1,224,000 bushels in 1902 to 507,000 bushels in 1908. In considering these figures, however, allowance must be made for the fact that while no returns were made for private areas separately in 1902, a considerable product therefrom appears in the totals for that year.

In each class of fisheries in 1908 oysters from private areas exceeded those from public areas both in quantity and in value.

[1] Statistics of the Fisheries of the South Atlantic States, 1902, p. 387.

GEORGIA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Gill nets.		Lines.		Seines.		Pound and trap nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	14,828,000	$701,000	1,721,000	$213,000	1,810,000	$74,000	549,000	$38,000	277,000	$14,000	10,472,000	$362,000
Fish:												
Alewives	32,000	1,000	13,000	400					15,000	500	4,000	(2)
Black bass	6,000	600			500	(2)			5,500	600		
Carp, German	38,000	1,200	35,000	1,100	2,000	100					600	(2)
Catfish	280,000	15,000			40,000	2,500	5,000	300	230,000	12,000	5,000	500
Croaker	46,000	1,800	27,000	900	14,000	600					4,500	200
Drum (salt-water), or channel bass	151,000	5,100	11,000	400	132,000	4,200					7,700	500
Eels	6,000	400			6,000	400						
Flounders	7,200	400	5,000	300							2,200	100
Grouper	160,000	2,900			160,000	2,900						
Hickory shad	3,500	200	3,500	200								
Mullet	194,000	5,400	38,000	1,000			75,000	2,300	9,000	200	72,000	2,000
Perch, yellow	14,000	600	2,000	100	5,000	200			7,000	400		
Pike	1,100	100			300	(2)			800	(2)		
Sea bass	233,000	14,000			233,000	14,000						
Shad	1,333,000	190,000	1,323,000	188,000							10,000	1,500
Sheepshead	64,000	3,700	28,000	1,700	37,000	2,100						
Snapper, red	880,000	30,000			880,000	30,000						
Squeteague	140,000	12,000	108,000	8,700	28,000	2,500	3,000	300			500	100
Striped bass	8,900	800			2,000	200			4,900	400	2,000	200
Sturgeon	100,000	7,000	100,000	7,000								
Suckers	3,000	100	3,000	100								
Sunfish	7,100	300			3,500	100			3,100	200	500	(2)
Whiting	98,000	9,400	25,000	2,500	72,000	6,900					1,200	100
Crabs, hard	196,000	7,500			196,000	7,500						
Shrimp and prawn	528,000	19,000					425,000	14,800			103,000	5,200
Terrapin	41,000	21,000					41,000	21,000				
Turtles	1,500	(2)							1,500	(2)		
Clams, hard	[3] 43,000	9,400									[3] 43,000	9,400
Oysters, market, from public areas	[4] 3,484,000	121,000									[4] 3,484,000	121,000
Oysters, market, from private areas	[5] 6,569,000	213,000									[5] 6,569,000	213,000
Oysters, seed, from public areas	[6] 63,000	1,800									[6] 63,000	1,800
Oysters, seed, from private areas	[7] 98,000	2,800									[7] 98,000	2,800
Skins, otter	[8] 700	3,600									[8] 700	3,600

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 10,257,000 pounds, valued at $348,000; cast nets, 187,000 pounds, valued at $7,900; otter traps, 700 pounds, valued at $3,600; stop nets, 11,000 pounds, valued at $1,500; catfish traps, 5,000 pounds, valued at $500; fyke and hoop nets, 9,000 pounds, valued at $400; and spears, 2,200 pounds, valued at $100.
[2] Less than $100.
[3] 5,400 bushels.
[4] 498,000 bushels.
[5] 938,000 bushels.
[6] 9,000 bushels.
[7] 14,000 bushels.
[8] 400 skins.

ILLINOIS.

In fishery products Illinois ranked fifteenth among the states in 1908. The catch of this state included a great variety of species, but the German carp represented considerably more than one-third and the products of the mussel fisheries almost one-fourth of the total, measured by value of products. The fishing grounds of the state are the Mississippi and Ohio Rivers with their tributaries, and Lake Michigan.

The following statement is a general summary of the statistics for 1908:

Number of persons employed	4,439
Capital:	
Vessels and boats, including outfit	$281,000
Apparatus of capture	272,000
Shore and accessory property and cash	295,000
Value of products	1,436,000

Comparison with previous canvasses.—During the five years preceding 1908 a great impetus was given the fisheries of Illinois. The increase in the catch of German carp and in the quantity of mussel products obtained was marked. Many other species showed heavy increases and a few species were reported for the first time at the census of 1908. The increase was general throughout all the fisheries of the state.

The main statistics for 1908 and for 1899, as reported by the Bureau of Fisheries, are as follows:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	4,359	$553,000	$281,000	$272,000	74,620,000	$1,436,000
1899	2,341	188,000	69,000	119,000	29,668,000	616,000

Persons employed.—The following table gives the statistics of the persons employed in the fisheries of Illinois, by district, class of fisheries, and condition of employment. The districts into which the fisheries are grouped are those of the Mississippi River and its tributaries, the Ohio River and its tributaries, and Lake Michigan. The district first mentioned includes the Illinois River, which furnished 60 per cent of the total products for the state.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908. Number. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Salaries and wages. Total.	Salaries.	Wages.
Total	4,439	[1] 3,060	15	1,364	$344,000	$9,000	[2] $335,000
Vessel fisheries	61	13	6	42	19,000	4,200	15,000
Transporting vessels	7	2	.....	5	1,100	.....	1,100
Shore and boat fisheries	4,291	3,045	9	1,237	293,000	4,800	288,000
Shoresmen	80	.....	.....	80	30,000	.....	30,000
Mississippi River district	3,811	2,551	15	1,245	319,000	9,000	310,000
Vessel fisheries	20	6	6	8	8,700	4,200	4,500
Transporting vessels	6	1	.....	5	1,100	.....	1,100
Shore and boat fisheries	3,716	2,544	9	1,163	284,000	4,800	279,000
Shoresmen	69	.....	.....	69	26,000	.....	26,000
Ohio River district	476	420	.....	56	3,400	.....	3,400
Transporting vessels	1	1	.....	.....	.....	.....	.....
Shore and boat fisheries	475	419	.....	56	3,400	.....	3,400
Lake Michigan district	152	89	.....	63	21,000	.....	21,000
Vessel fisheries	41	7	.....	34	11,000	.....	11,000
Shore and boat fisheries	100	82	.....	18	5,600	.....	5,600
Shoresmen	11	.....	.....	11	4,400	.....	4,400

[1] Exclusive of 24 proprietors not fishing.
[2] Includes provisions furnished to the value of $16,000.

The fisheries of the Illinois River gave employment in the aggregate to 2,497 persons, or more than one-half of the total number for the state. Of these, 1,504 were proprietors and independent fishermen, 6 were salaried employees, and 987 were wage-earners.

Equipment and other capital.—The distribution among the three districts of the value of equipment and other capital employed in the Illinois fisheries is shown in the following table:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Mississippi River district.	Ohio River district.	Lake Michigan district.
Total	$849,000	$747,000	$19,000	$83,000
Vessels, including outfit	47,000	21,000	1,200	25,000
Fishing (steam and motor)	43,000	18,000	.....	25,000
Vessels	33,000	10,000	.....	23,000
Outfit	9,800	7,500	.....	2,400
Transporting	4,600	3,300	1,200	.....
Steam and motor	3,400	2,600	800	.....
Vessels	2,900	2,100	800	.....
Outfit	500	500	.....	.....
Other	1,200	700	400	.....
Boats	234,000	221,000	5,500	7,500
Steam and motor	155,000	148,000	1,400	5,100
Sail	400	.....	.....	400
Row	69,000	64,000	4,100	1,000
Other	10,000	9,100	.....	1,000
Apparatus of capture	272,000	239,000	8,900	24,000
Vessel fisheries	23,000	5,300	.....	18,000
Shore and boat fisheries	249,000	234,000	8,900	6,700
Shore and accessory property	153,000	130,000	3,400	19,000
Cash	142,000	135,000	.....	7,000

The number and tonnage of the vessels and the number of boats reported for 1908 and the distribution by districts is given in the following tabular statement:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908. Total.	Mississippi River district.	Ohio River district.	Lake Michigan district.
Vessels:				
Fishing—				
Number	12	5	.....	7
Tonnage	127	29	.....	98
Transporting—				
Number	3	2	1	.....
Tonnage	23	18	5	.....
Other, number	2	1	1	.....
Boats, number	4,222	3,678	472	72
Steam and motor	624	604	12	8
Sail	8	.....	.....	8
Row	3,374	2,860	460	54
Other	216	214	.....	2

The value of apparatus of capture, of floating equipment, and that of shore and accessory property, combined with cash, each represents about a third of the total investment. Of the investment in shore and accessory property, $126,000 pertained to shore and boat fisheries and $26,000 to vessel fisheries and transporting vessels. Of the cash capital, $115,000 was reported by the shore and boat fisheries and $27,000 by the vessel fisheries. The total investment of the shore and boat fisheries was $725,000, and that of vessel fisheries and transporting vessels was $124,000.

Of the investment in floating equipment exclusive of outfits, $190,000, or over 70 per cent, represents steam and motor boats.

The Illinois River fisheries employed $551,000, or nearly two-thirds of the total capital for the state.

The number and distribution of the various kinds of apparatus of capture, as reported for 1908, were as follows:

KIND.	APPARATUS OF CAPTURE: 1908. Total.	Distributed by districts. Mississippi River district.	Ohio River district.	Lake Michigan district.	Distributed by class of fisheries. Vessel fisheries.	Shore and boat fisheries.
Dip nets	67	.....	.....	67	.....	67
Fish baskets and traps	152	152	.....	.....	.....	152
Fyke nets	29,510	28,536	974	.....	440	29,070
Gill nets	4,135	10	.....	4,125	3,340	795
Pound nets	4	.....	.....	4	.....	4
Seines	361	341	6	14	11	350
Trammel nets	615	612	1	2	6	609
Traps, mink and muskrat	8,865	8,865	.....	.....	.....	8,865

Products, by species.—The quantity and value of the fishery products of the state are given, by species and by apparatus of capture, in Table 1, on page 117.

The carp and mussel fisheries ranked far above all of the others in value and together contributed 65 per cent of the total value of the fishing product for the state.

Products, by fishing grounds.—Tables 2, 3, and 4, on pages 118 and 119 show the products, by species and apparatus of capture, for the Mississippi River, the Ohio River, and the Lake Michigan districts, respectively.

The following table shows the distribution of the value of the chief products for the fishery districts of the state:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Mississippi River district.	Ohio River district.	Lake Michigan district.
Total	$1,436,000	$1,242,000	$136,000	$58,000
Fish	1,032,000	953,000	22,000	58,000
Carp, German	574,000	566,000	5,500	2,600
Buffalo fish	117,000	113,000	3,800	100
Catfish and bullheads	96,000	90,000	6,300	.....
Black bass	57,000	57,000	100	[1]
Crappie	35,000	34,000	100	[1]
Sunfish	31,000	31,000	100	.....
Lake herring, or cisco	28,000	.....	.....	28,000
Drum, or sheepshead	20,000	16,000	3,900	100
Dogfish	18,000	17,000	.....	200
Lake trout	13,000	.....	.....	13,000
Perch, yellow	12,000	.....	.....	12,000
Paddlefish	12,000	11,000	600	.....
All other	21,000	17,000	1,600	2,000
Mussel shells	184,000	142,000	42,000	.....
Pearls and slugs	170,000	98,000	72,000	.....
Skins, muskrat and mink	20,000	20,000	.....	.....
Terrapin and turtles	21,000	21,000	.....	.....
Frogs	6,800	6,800	.....	.....

[1] Less than $100.

The most important tributary of the Mississippi River is the Illinois River. In 1894 the fishery product of the Illinois River was about 3,000 tons, valued at $162,000, and formed about one-half of the yield of the Mississippi River district. In 1899 it formed about two-thirds, amounting to 7,000 tons, valued at $382,000, and in 1908 it formed more than seven-tenths, amounting to 23,000 tons, valued at $860,000. The chief product of the Illinois River is German carp. The carp from this river in 1908 formed nearly three-fourths of the carp product for the state, and was valued at $412,000, which is nearly as large as the combined value of all the other fishery products of this river.

The mussel products of the Illinois River were valued at $139,000, or nearly 58 per cent of the value of the mussel products of the Mississippi River district, and nearly 40 per cent of the value of the mussel products of the state.

The fisheries of the Ohio River district have increased to a considerable extent, as is shown by the following comparative statement:

YEAR.	FISHERY PRODUCTS OF THE OHIO RIVER DISTRICT. Quantity (pounds).	Value.
1908	7,424,000	$136,000
1899	380,000	20,000
1894	940,000	30,000

Prior to 1908 no mussel product entered into the total for this district. The extent of such products in 1908 accounts almost entirely for the large gains shown for that year, as compared with the earlier years. Carp, moreover, which in 1908 contributed one-fourth of the value of the fish product, formed only a small part of the product at each of the previous canvasses. In 1899 and in 1894 drum, buffalo fish, and catfish were leading species.

The increase in the products of the lake fisheries since the last canvass has been relatively large, as is shown in the following tabular statement:

YEAR.	FISHERY PRODUCTS OF LAKE MICHIGAN DISTRICT. Quantity (pounds).	Value.
1908	1,176,000	$58,000
1903	598,000	24,000
1890	822,000	24,000

Products, by class of fisheries.—The distribution of the product between the vessel fisheries and the shore and boat fisheries by districts is shown in the following tabular statement:

DISTRICT AND CLASS OF FISHERIES.	FISHERY PRODUCTS: 1908. Quantity. Pounds.	Per cent distribution.	Value. Amount.	Per cent distribution.
Total	74,620,000	100	$1,436,000	100
Vessel fisheries	2,983,000	4	89,000	6
Mississippi River district	2,484,000	3	61,000	4
Lake Michigan district	500,000	1	28,000	2
Shore and boat fisheries	71,636,000	96	1,347,000	94
Mississippi River district	63,536,000	85	1,181,000	82
Ohio River district	7,424,000	10	136,000	9
Lake Michigan district	677,000	1	30,000	2

The catch of the shore and boat fisheries comprised all but a small portion of the entire state product.

The products, by species and apparatus of capture, are given for the vessel fisheries in Table 5, on page 119, and for the shore and boat fisheries in Table 6, on page 120. The former table also distributes the products between the two districts which had vessel fisheries—the Mississippi River and the Lake Michigan districts.

By deducting the products of the vessel fisheries of the Mississippi River and Lake Michigan districts, as given in Table 5, on page 119, from the corresponding items for all fishery products of those districts, as given in Tables 2 and 4, respectively, on pages 118 and 119, the specific products of the shore and boat fisheries of each of these districts can be ascertained. All of the products of the Ohio River district, presented in Table 3, belong to the shore and boat fisheries.

Products, by apparatus of capture.—The distribution by apparatus of capture of the products of chief value for the respective districts is given in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.			
	Total.	Mississippi River district.	Ohio River district.	Lake Michigan district.
Total	$1,436,000	$1,242,000	$136,000	$58,000
Seines	460,000	455,000	2,000	2,800
Crowfoot dredges, etc	355,000	241,000	114,000	.....
Fyke nets	330,000	319,000	12,000	.....
Trammel nets	151,000	151,000	400	(1)
Lines	56,000	48,000	7,900	900
Gill nets	51,000	200	.....	51,000
Traps	20,000	20,000	.....	.....
All other	12,000	9,000	.....	3,000

[1] Less than $100.

Crowfoot dredges, which are employed in the mussel fisheries, had the largest yield in weight and the second in value, while seines had the largest in value and the second in weight. Fyke nets were third in both weight and value of catch. Products valued at about 80 per cent of the total value of fishery products were taken by these three classes of apparatus. Gill-net fishing is practically confined to Lake Michigan, where nearly nine-tenths of the product for 1908 was taken in nets of this class.

German carp.—The value of the catch of German carp, $574,000, formed 40 per cent of the value of the entire fishery product of the state, and was considerably more than the combined value of all of the other food fishes. The carp taken weighed 11,000 short tons, or more than one and one-half times the weight of all other food fishes taken in the state. A carp product was reported by every district, but much the largest amount was taken in the Mississippi River district. Of the total for that district, 7,700 tons, valued at $412,000, were taken in the Illinois River.

Approximately three-fourths of the carp reported at previous canvasses as caught in the Mississippi River district came from the Illinois River. One-half or more of the growth in the fishery product of the state can be credited to the growth in the catch of carp. In 1894 buffalo, catfish, and fresh-water drum had a heavier and more valuable yield than carp, but in 1899 carp led for the first time.

YEAR.	GERMAN-CARP PRODUCT.	
	Quantity (pounds).	Value.
1908	21,642,000	$574,000
1903	7,650,000	176,000
1899	9,896,000	244,000
1894	860,000	21,000

The German carp was introduced into the Illinois River as late as 1880. At first it was despised, and when a fish of this species was caught inadvertently it was generally thrown back into the river. These early years of unmolested opportunity, given to a fish of such fecundity and hardihood, produced large results later. Much hostility was manifested toward the carp by sportsmen, and no demand for it as a food was apparent for some years after its introduction. But the Illinois commission began a vigorous defense of the carp and conducted what was almost a campaign of education, instructing sportsmen in the habits of the carp and fish dealers in its food value. Recipes for preparing the flesh for table use and for making jellies and other delicacies were published, testimony as to the epicurean qualities of these preparations was collected and printed, menus containing carp served in various ways at famous hostelries were lithographed and distributed, and statistics of the production and consumption of the fish in other countries were made known. In a relatively short time fishermen turned their attention to the carp, and as early as 1899 the weight of the carp taken was nearly equal to that of all other food fishes combined.

Carp are taken with a great variety of apparatus, although one-half of the catch was with seines. Contrary to the general impression, lines are efficacious in their capture, and of the commercial product, carp to the value of $17,000 were so taken.

Mussels.—The mussel fisheries had a product second in value to that of carp. The value of the shells, pearls, and slugs obtained in the state amounted to $355,000, or 25 per cent of the value of all products. Of this amount, $114,000 is credited to the fisheries of the Ohio River district and $241,000 to those of the Mississippi River district. The value of the products of the Illinois River, amounting to $139,000, formed the larger portion of the value reported for the Mississippi River district. The increase in the yield of mussels was even more rapid than that in the catch of carp. The product in 1894, 1899, and 1908 was as follows:

YEAR.	MUSSEL PRODUCTS.		
	Quantity (tons).	Value.	
		Shells.	Pearls and slugs.
1908	20,000	$184,000	$170,000
1899	2,500	43,000	.....
1894	24	700	.....

Buffalo fish.—The buffalo fish, which led before carp attained first place, ranked second in value among the food fishes in 1908, and its value formed 8 per cent of the total value of products. Buffalo fish are taken in all districts, but 90 per cent of the catch in 1908 was from the Mississippi River district. The yield of buffalo fish decreased in quantity, but a recovery in prices arrested the decrease in the value of the catch. Buffalo fish are taken principally with seines and fyke nets.

The product for 1894, 1899, and 1908 is shown below:

YEAR.	BUFFALO-FISH PRODUCT.	
	Quantity (pounds).	Value.
1908	3,042,000	$117,000
1899	4,051,000	112,000
1894	5,817,000	146,000

Catfish.—Catfish was fourth in importance, and the product for 1908 and prior years is shown in the next column.

YEAR.	CATFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	2,044,000	$96,000
1899	1,570,000	69,000
1894	1,962,000	82,000

Black bass.—Black bass is a valuable food fish that is taken chiefly in the Mississippi River district. Nearly one-half of the catch is by seines. That there has been a notable increase in the quantity caught is shown by the following tabular statement:

YEAR.	BLACK-BASS PRODUCT.	
	Quantity (pounds).	Value.
1908	532,000	$57,000
1899	126,000	11,000
1894	97,000	8,000

TABLE 1.—ILLINOIS—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Fyke nets.		Trammel nets.		Lines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	74,620,000	$1,436,000	15,945,000	$460,000	11,370,000	$330,000	5,100,000	$151,000	1,242,000	$56,000	962,000	$51,000	40,001,000	$387,000
Fish:														
Black bass	532,000	57,000	220,000	25,000	100,000	9,900	114,000	11,000	98,000	11,000	300	(2)	200	(2)
Buffalo fish	3,042,000	117,000	1,227,000	49,000	1,153,000	44,000	368,000	22,000	62,000	2,400	1,800	100	800	(2)
Carp, German	21,642,000	574,000	10,957,000	291,000	6,891,000	185,000	3,175,000	81,000	604,000	17,000	2,200	100	13,000	400
Catfish and bullheads	2,044,000	96,000	811,000	34,000	625,000	29,000	319,000	15,000	283,000	17,000	500	(2)	5,400	200
Crappie	1,281,000	35,000	575,000	16,000	515,000	13,000	174,000	5,000	16,000	700	200	(2)	400	(2)
Dogfish	1,370,000	18,000	702,000	9,100	485,000	6,000	162,000	2,200	20,000	300	400	(2)	500	(2)
Drum (fresh-water), or sheepshead	666,000	20,000	167,000	4,700	312,000	9,700	106,000	2,800	76,000	2,800	1,800	100	2,700	100
Eels	31,000	1,800	7,200	400	12,000	600	6,500	300	5,400	500	.....	.....	100	(2)
Lake herring, or cisco	598,000	28,000	.....	.....	.....	.....	(2)	(2)	300	(2)	573,000	27,000	24,000	800
Lake trout	150,000	13,000	.....	.....	.....	.....	.....	.....	100	(2)	148,000	12,000	2,300	200
Ling, or eelpout	27,000	600	.....	.....	.....	.....	.....	.....	500	(2)	26,000	500	1,000	(2)
Paddlefish	402,000	12,000	289,000	8,700	84,000	2,300	30,000	1,100	400	(2)	.....	.....	.....	.....
Perch, yellow	238,000	12,000	.....	.....	.....	.....	200	(2)	21,000	900	193,000	10,000	25,000	1,400
Pike and pickerel	14,000	1,100	5,000	300	2,300	200	2,600	200	3,400	300	400	(2)	200	(2)
Pike perch (wall-eyed pike)	14,000	1,500	1,700	100	900	100	400	(2)	11,000	1,300	(3)	(2)	.....	.....
Rock bass	6,200	800	400	(2)	900	100	600	(2)	4,200	600	100	(2)	.....	.....
Sturgeon and caviar and sturgeon eggs[4]	180,000	7,300	45,000	1,600	30,000	800	79,000	3,800	26,000	1,100	200	(2)	.....	.....
Suckers	281,000	6,400	72,000	1,300	128,000	3,000	74,000	1,800	1,400	(2)	2,900	100	2,200	100
Sunfish, or bream	1,714,000	31,000	696,000	13,000	767,000	13,000	241,000	4,600	9,500	300	200	(2)	200	(2)
White bass	6,900	300	2,500	100	1,200	100	2,800	(2)	200	(2)	100	(2)	.....	.....
Whitefish	13,000	800	.....	.....	.....	.....	.....	.....	.....	.....	9,300	500	3,500	300
All other	2,900	100	.....	.....	.....	.....	.....	.....	.....	.....	1,600	100	1,300	(2)
Frogs	25,000	6,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25,000	6,800
Terrapin	265,000	13,000	79,000	3,000	123,000	10,000	3,800	100	.....	.....	.....	.....	.....	.....
Turtles	306,000	8,100	88,000	2,400	141,000	3,700	11,000	300	.....	.....	200	(2)	66,000	1,700
Mussel shells	39,809,000	184,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39,809,000	184,000
Pearls and slugs	.....	170,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170,000
Skins, mink	[5] 1,900	6,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,900	6,000
Skins, muskrat	[6] 17,000	14,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 17,000	14,000

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 39,809,000 pounds, valued at $55,000; traps, 19,000 pounds, valued at $20,000; dip nets, 35,000 pounds, valued at $1,800; spears, 68,000 pounds, valued at $1,800; pound nets, 32,000 pounds, valued at $1,200; fish baskets and traps, 13,000 pounds, valued at $400; firearms, 600 pounds, valued at $100; and minor apparatus, 24,000 pounds, valued at $6,700.

[2] Less than $100.

[3] Less than 100 pounds.

[4] Includes 1,300 pounds of caviar and sturgeon eggs, valued at $800.

[5] 3,800 skins.

[6] 50,000 skins.

TABLE 2.—ILLINOIS—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Fyke nets.		Trammel nets.		Lines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	66,020,000	$1,242,000	15,766,000	$455,000	11,088,000	$319,000	5,088,000	$151,000	1,059,000	$48,000	7,000	$200	33,012,000	$270,000
Fish:														
Black bass	532,000	57,000	220,000	25,000	100,000	9,800	114,000	11,000	98,000	11,000	300	(2)	200	(2)
Buffalo fish	2,949,000	113,000	1,214,000	48,000	1,094,000	41,000	590,000	21,000	49,000	1,900	1,800	100	300	(2)
Carp, German	21,390,000	566,000	10,830,000	288,000	6,804,000	181,000	3,175,000	81,000	571,000	15,000	2,000	(2)	8,000	300
Catfish and bullheads	1,943,000	90,000	805,000	34,000	601,000	28,000	319,000	15,000	212,000	13,000	500	(2)	5,400	200
Crappie	1,279,000	34,000	575,000	16,000	514,000	13,000	174,000	5,000	16,000	700	200	(2)	400	(2)
Dogfish	1,359,000	17,000	692,000	9,000	485,000	6,000	162,000	2,200	20,000	300	400	(2)	500	(2)
Drum (fresh-water), or sheepshead	569,000	16,000	156,000	4,300	259,000	7,400	106,000	2,800	48,000	1,600	500	(2)	300	(2)
Eels	30,000	1,800	7,200	400	12,000	600	6,500	300	5,300	500				
Paddlefish	374,000	11,000	283,000	8,600	62,000	1,800	30,000	1,100	400	(2)				
Pike and pickerel	13,000	1,100	5,000	300	2,300	200	2,600	200	3,400	300				
Pike perch (wall-eyed pike)	12,000	1,400	1,700	100	300	(2)	400	(2)	9,900	1,200				
Rock bass	4,800	700	300	(2)	100	(2)	200	(2)	4,200	600	100	(2)		
Sturgeon and caviar and sturgeon eggs[3]	161,000	6,900	45,000	1,600	25,000	700	79,000	3,800	11,000	800	200	(2)		
Suckers	240,000	5,100	67,000	1,200	90,000	2,200	72,000	1,800	1,400	(2)	500	(2)		
Sunfish	1,712,000	31,000	696,000	13,000	766,000	13,000	241,000	4,600	9,300	300	200	(2)	100	(2)
White bass	6,900	300	2,600	100	1,200	100	2,800	(2)	200	(2)	100	(2)	200	(2)
Frogs	25,000	6,800											25,000	6,800
Terrapin	295,000	13,000	79,000	3,000	123,000	10,000	3,800	100						
Turtles	306,000	8,100	88,000	2,400	141,000	3,700	11,000	300			200	(2)	66,000	1,700
Mussel shells	32,887,000	142,000											32,887,000	142,000
Pearls and slugs		98,000												98,000
Skins, mink	[4]1,900	6,000											[4]1,900	6,000
Skins, muskrat	[5]17,000	14,000											[5]17,000	14,000

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 32,887,000 pounds, valued at $241,000; traps, 19,000 pounds, valued at $20,000; spears, 67,000 pounds, valued at $1,800; fish baskets or traps, 13,000 pounds, valued at $400; firearms, 600 pounds, valued at $100; and minor apparatus, 24,000 pounds, valued at $6,700.
[2] Less than $100.
[3] Includes 1,300 pounds of caviar and sturgeon eggs, valued at $800.
[4] 4,000 skins.
[5] 50,200 skins.

TABLE 3.—ILLINOIS—FISHERY PRODUCTS OF OHIO RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Fyke nets.		Trammel nets.		Lines.		Crowfoot dredges, etc.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity. (pounds).	Value.
Total	7,424,000	$136,000	47,000	$2,000	282,000	$12,000	11,000	$400	162,000	$7,900	6,922,000	$114,000
Fish:												
Black bass	600	100										
Buffalo fish	91,000	3,800	10,000	400	59,000	2,500	7,800	300	13,000	600		
Carp, German	132,000	5,500	12,000	500	86,000	3,000	400	(1)	33,000	1,400		
Catfish and bullheads	100,000	6,300	6,000	400	24,000	1,600			70,000	4,300		
Crappie	1,600	100	500	(1)	1,100	100						
Drum (fresh-water), or sheepshead	93,000	3,900	10,000	400	53,000	2,200	500	(1)	29,000	1,200		
Eels	100	(1)							100	(1)		
Paddlefish	28,000	600	6,100	100	22,000	500						
Pike perch (wall-eyed pike)	2,000	100			600	(1)			1,400	100		
Rock bass	1,300	100	100	(1)	800	100	400	(1)				
Sturgeon	19,000	400			4,400	100			15,000	300		
Suckers	32,000	1,000	1,500	(1)	29,000	900	2,000	100				
Sunfish	1,500	100	200	(1)	1,300	100						
Mussel shells	6,922,000	42,000									6,922,000	42,000
Pearls and slugs		72,000										72,000

[1] Less than $100.

TABLE 4.—ILLINOIS—FISHERY PRODUCTS OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Gill nets.		Dip nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,176,000	$58,000	132,000	$2,800	955,000	$51,000	35,000	$1,800	54,000	$2,200
Carp, German	120,000	2,600	115,000	2,500	200	(2)	4,400	100	400	(2)
Dogfish	10,000	200	10,000	200						
Drum (fresh-water), or sheepshead	3,700	100			1,300	(2)	2,000	100	400	(2)
Lake herring	598,000	28,000			573,000	27,000	1,400	100	23,000	700
Lake trout	150,000	13,000			148,000	12,000			2,400	200
Ling, or eelpout	27,000	600			26,000	500	500	(2)	1,000	(2)
Perch, yellow	238,000	12,000			193,000	10,000	24,000	1,300	22,000	900
Suckers	8,500	300	4,000	100	2,400	100	800	(2)	1,200	(2)
Whitefish	13,000	800			9,300	500			3,500	300
All other	6,100	300	2,000	100	2,000	100	2,000	100	100	(2)

[1] Includes apparatus, with catch, as follows: Pound nets, 32,000 pounds, valued at $1,200; and lines, 21,000 pounds, valued at $900.
[2] Less than $100.

TABLE 5.—ILLINOIS—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES AND DISTRICT.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Gill nets.		Fyke nets.		Trammel nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	2,983,000	$89,000	2,012,000	$47,000	495,000	$28,000	439,000	$13,000	33,000	$1,000	4,700	$200
Fish:												
Buffalo fish	204,000	7,500	173,000	6,200			28,000	1,100	4,000	100		
Carp, German	1,975,000	46,000	1,632,000	36,000			323,000	9,100	20,000	600		
Catfish and bullheads	121,000	3,500	101,000	2,600			19,000	800	2,000	100		
Crappie	31,000	1,400	34,000	900			17,000	500	600	(2)		
Dogfish	30,000	400	4,500	100			25,000	300	1,000	(2)		
Drum (fresh-water), or sheepshead	13,000	400	9,700	300			2,700	100	1,000	(2)		
Eels	5,000	200	3,000	200			1,000	100	1,000	100		
Lake herring	321,000	16,000			321,000	16,000						
Lake trout	119,000	10,000			119,000	10,000					100	(2)
Ling, or eelpout	25,000	500			25,000	500						
Paddlefish	4,700	100	3,200	100			1,100	(2)	400	(2)		
Perch, yellow	27,000	1,300			23,000	1,100					4,000	200
Sturgeon	12,000	400	11,000	300			400	(2)	400	(2)		
Sunfish	50,000	1,200	30,000	700			19,000	500	600	(2)		
Whitefish	6,300	300			6,200	300						
All other	6,800	200	2,600	100	1,300	100	2,500	100	400	(2)		
Frogs	600	(2)									600	(2)
Terrapin	9,600	200	8,000	200			200	(2)	1,400	(2)		
Mississippi River district	2,484,000	61,000	2,012,000	47,000			439,000	13,000	33,000	1,000	600	(2)
Fish:												
Buffalo fish	204,000	7,500	173,000	6,200			28,000	1,100	4,000	100		
Carp, German	1,975,000	46,000	1,632,000	36,000			323,000	9,100	20,000	600		
Catfish and bullheads	121,000	3,500	101,000	2,600			19,000	800	2,000	100		
Crappie	51,000	1,400	34,000	900			17,000	500	600	(2)		
Dogfish	30,000	400	4,500	100			25,000	300	1,000	(2)		
Drum (fresh-water), or sheepshead	13,000	400	9,700	300			2,700	100	1,000	(2)		
Eels	5,000	200	3,000	200			1,000	100	1,000	100		
Paddlefish	4,700	100	3,200	100			1,100	(2)	400	(2)		
Sturgeon	12,000	400	11,000	300			400	(2)	400	(2)		
Sunfish	50,000	1,200	30,000	700			19,000	500	600	(2)		
All other	5,500	200	2,600	100			2,500	100	400	(2)		
Frogs	600	(2)									600	(2)
Terrapin	9,600	200	8,000	200			200	(2)	1,400	(2)		
Lake Michigan district	500,000	28,000			495,000	28,000					4,100	200
Lake herring	321,000	16,000			321,000	16,000						
Lake trout	119,000	10,000			119,000	10,000					100	(2)
Ling, or eelpout	25,000	500			25,000	500						
Perch, yellow	27,000	1,300			23,000	1,100					4,000	200
Whitefish	6,200	300			6,200	300						
All other	1,300	100			1,300	100						

[1] Includes apparatus, with catch, as follows: Lines, 4,100 pounds, valued at $200; and minor apparatus, 600 pounds, valued at less than $100.
[2] Less than $100.

TABLE 6.—ILLINOIS—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Fyke nets.		Trammel nets.		Lines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	71,636,000	$1,347,000	13,933,000	$412,000	10,931,000	$318,000	5,067,000	$150,000	1,238,000	$56,000	467,000	$24,000	40,001,000	$387,000
Fish:														
Black bass	532,000	57,000	220,000	25,000	100,000	9,900	114,000	11,000	98,000	11,000	300	(2)	200	(2)
Buffalo fish	2,838,000	109,000	1,054,000	42,000	1,125,000	43,000	594,000	21,000	62,000	2,400	1,800	100	800	(2)
Carp, German	19,667,000	529,000	9,325,000	255,000	6,568,000	176,000	3,155,000	80,000	604,000	17,000	2,200	100	13,000	400
Catfish and bullheads	1,922,000	92,000	710,000	32,000	697,000	28,000	317,000	15,000	283,000	17,000	500	(2)	5,400	200
Crappie	1,229,000	33,000	542,000	15,000	497,000	13,000	174,000	5,000	16,000	700	200	(2)	400	(2)
Dogfish	1,339,000	17,000	698,000	9,100	460,000	5,700	161,000	2,100	20,000	300	400	(2)	500	(2)
Drum (fresh-water), or sheepshead	652,000	20,000	157,000	4,400	309,000	9,600	105,000	2,800	76,000	2,800	1,800	100	2,700	100
Eels	26,000	1,500	4,200	200	11,000	500	5,500	300	5,400	500			100	(2)
Lake herring	278,000	13,000					(3)	(3)	300	(3)	252,000	12,000	25,000	700
Lake trout	32,000	2,500									29,000	2,300	2,300	200
Ling, or eelpout	2,400	100							500	(3)	1,000	(3)	1,000	(3)
Paddlefish	398,000	12,000	286,000	8,600	83,000	2,200	29,000	1,100	400	(3)				
Perch, yellow	211,000	11,000					200	(3)	17,000	700	169,000	8,900	25,000	1,400
Pike and pickerel	13,000	1,100	4,800	300	2,200	200	2,400	200	3,400	300	400	(3)	200	(3)
Pike perch (wall-eyed)	14,000	1,500	1,700	100	900	100	400	(3)	11,000	1,300	(3)	(3)		
Rock bass	6,200	800	400	(3)	900	100	600	(3)	4,200	600	100	(3)		
Sturgeon and caviar and sturgeon eggs.[4]	168,000	7,000	34,000	1,300	29,000	800	78,000	3,800	26,000	1,100	200	(3)		
Suckers, including mullet	276,000	6,300	70,000	1,300	126,000	3,000	74,000	1,800	1,400	(3)	2,900	100	2,200	100
Sunfish	1,664,000	29,000	666,000	12,000	748,000	12,000	240,000	4,600	9,500	300	200	(3)	200	(3)
White bass	6,900	300	2,600	100	1,200	100	2,800	(3)	200	(3)	100	(3)		
Whitefish	6,600	500									3,100	200	3,500	300
All other	1,700	100									400	(3)	1,300	(3)
Frogs	24,000	6,800											24,000	6,800
Terrapin	196,000	13,000	71,000	2,800	122,000	10,000	2,400	100						
Turtles	306,000	8,100	88,000	2,400	141,000	3,700	11,000	300			200	(3)	66,000	1,700
Mussel shells	39,809,000	184,000											39,809,000	184,000
Pearls and slugs		170,000												170,000
Skins, mink	[5] 1,900	6,000											[5] 1,900	6,000
Skins, muskrat	[6] 17,000	14,000											[6] 17,000	14,000

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 39,809,000 pounds, valued at $355,000; traps, 19,000 pounds, valued at $20,000; dip nets, 35,000 pounds, valued at $1,800; spears, 68,000 pounds, valued at $1,800; pound nets, 32,000 pounds, valued at $1,200; fish baskets and traps, 13,000 pounds, valued at $400; firearms, 600 pounds, valued at $100; and minor apparatus, 24,000 pounds, valued at $6,700.

[2] Less than $100.

[3] Less than 100 pounds.

[4] Includes 1,300 pounds of caviar and sturgeon eggs, valued at $800.

[5] 3,800 skins.

[6] 50,000 skins.

INDIANA.

The fisheries of the northern part of Indiana are carried on in Lake Michigan, and those of the southern part in the Ohio River and its tributaries, the Wabash, White, and other rivers. The extent of the industry in this state is briefly indicated in the following statement:

Number of persons employed	986
Capital:	
Vessels and boats, including outfit	$23,000
Apparatus of capture	28,000
Shore and accessory property and cash	22,000
Value of products	223,000

Comparison with previous canvasses.—A comparison of the returns of this census with those of earlier canvasses shows that there has been a reaction from the decrease in the products which was apparent in both fishery districts of Indiana in 1899. This reaction is due almost entirely to the recent development of the mussel fisheries. The following tabular statement compares the figures for 1908 with the figures reported for former years:

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
Indiana:						
1908	972	$52,000	$23,000	$28,000	15,507,000	$223,000
1899	459	37,000	14,000	23,000	1,544,000	72,000
Lake Michigan district:						
1908	76	30,000	14,000	16,000	622,000	41,000
1903	36	11,000	3,200	7,800	310,000	11,000
1899	50	18,000	7,600	11,000	593,000	16,000
Ohio River district:						
1908	896	22,000	9,200	13,000	14,886,000	182,000
1899	409	19,000	6,800	12,000	951,000	55,000
1894	889	23,000	7,500	16,000	2,505,000	124,000

Persons employed.—The statistics of the persons employed in the fisheries of the state are given in the following tabular statement. The greater number were independent fishermen. The low average wages paid to all classes of wage-earners in the Ohio River district and to those employed in the shore and boat fisheries of Lake Michigan indicate the incidental or intermittent character of the employment.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	986	[1] 873	113	[2] $18,000
Vessel fisheries	7	3	4	3,400
Shore and boat fisheries	965	870	95	12,600
Shoresmen	14	.....	14	2,800
Lake Michigan district	80	49	31	13,000
Vessel fisheries	7	3	4	3,400
Shore and boat fisheries	69	46	23	7,900
Shoresmen	4	.....	4	2,100
Ohio River district	906	824	82	5,000
Shore and boat fisheries	896	824	72	4,400
Shoresmen	10	.....	10	600

[1] Exclusive of four proprietors not fishing.

[2] Includes provisions furnished to the value of $1,200.

Equipment and other capital.—The next tabular statement gives the value of the investment in the Indiana fisheries, with its distribution between the Lake Michigan and the Ohio River districts.

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Lake Michigan district.	Ohio River district.
Total	$74,000	$51,000	$24,000
Vessels (fishing), including outfit	7,700	7,700	.....
Vessels	6,700	6,700	.....
Outfit	1,000	1,000	.....
Boats	16,000	6,400	9,200
Steam and motor	6,800	4,300	2,500
Sail	500	500	.....
Row	7,200	600	6,600
Other	1,100	1,100	(1)
Apparatus of capture	28,000	16,000	13,000
Vessel fisheries	3,200	3,200	.....
Shore and boat fisheries	25,000	13,000	13,000
Shore and accessory property	18,000	16,000	1,700
Cash	4,900	4,800	(1)

[1] Less than $100.

The statistics of the number and tonnage of vessels and the number of boats are as follows:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Lake Michigan district.	Ohio River district.
Vessels:			
Number	2	2	.....
Tonnage	33	33	.....
Boats, number	937	56	881
Steam and motor	18	9	9
Sail	9	9	.....
Row	909	31	869
Other	10	7	3

The value of shore and accessory property in 1908 amounted to $4,600 for vessel fisheries and $13,000 for shore and boat fisheries, while the amount of cash reported for vessel fisheries was $800 and for shore and boat fisheries $4,100. The total capital credited to vessel fisheries was therefore $16,000 and to shore and boat fisheries $58,000.

Apparatus of capture represented more than a third of the entire investment. The number of the kinds of apparatus was as follows:

Dip nets	25
Fyke nets	919
Gill nets	809
Pound nets	37
Seines	30

The pound nets and gill nets were used wholly in Lake Michigan. All except 192 of the gill nets were used in the shore and boat fisheries.

Products, by species.—The products, by species and apparatus of capture, for all fisheries of the state are shown in Table 1, on page 123. The entire product was taken by the shore and boat fisheries, with the exception of 3,000 pounds of herring, valued at $100, and 112,000 pounds of trout, valued at $8,000, which were taken by the vessel fisheries of Lake Michigan. The mussel fishery furnished the bulk of the product. The catch of fish proper amounted to only 1,076,000 pounds, or 7 per cent of the total, and was valued at $69,000, or only 31 per cent of the total. These figures, however, represent an increase over the food fish caught in 1903 of approximately 66 per cent in weight and 125 per cent in value.

Products, by fishing grounds.—The fishery products of the Ohio River and its tributaries, by species and by apparatus of capture, are given in Table 2, on page 123, and those of Lake Michigan are similarly given in Table 3, on page 123.

The fisheries of the Ohio River district were all of the shore and boat class. The entire product of mussels, pearls, and slugs came from these waters, contributing 85 per cent of the total value for the district. The fish product proper of this district amounted to 455,000 pounds, valued at $27,000, and consisted chiefly of catfish, buffalo fish, drum, and German carp, ranking in value in the order named.

All of the Lake Michigan product was food fish, while in the Ohio River district only 15 per cent of the value represented food fish. In the lake fisheries trout, lake herring, yellow perch, sturgeon (including caviar), and whitefish were the leading species and formed 91 per cent of the lake catch.

The chief products, ranked in the order of the value reported for the state, are given in the following table, by districts:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Ohio River district.	Lake Michigan district.
Total	$223,000	$182,000	$41,000
Fish:			
Lake trout	9,600	.....	9,600
Lake herring	8,400	.....	8,400
Catfish and bullheads	7,800	7,600	100
Perch, yellow	7,600	.....	7,600
Drum (fresh-water), or sheepshead	7,600	6,200	1,400
Sturgeon and caviar	7,200	800	6,300
Buffalo fish	7,000	6,900	100
Carp, German	6,000	5,000	1,000
Whitefish	5,000	.....	5,000
All other	2,400	900	1,400
Mussel products	155,000	155,000	.....
Shells	81,000	81,000	.....
Pearls and slugs	74,000	74,000	.....

Products, by apparatus of capture.—The distribution of the total value of products, according to apparatus of capture, for the state and for each district, was as follows:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Ohio River district.	Lake Michigan district.
Total	$223,000	$182,000	$41,000
Gill nets	18,000	.....	18,000
Pound nets	18,000	.....	18,000
Fyke nets	16,000	16,000	(1)
Lines	11,000	7,400	3,100
Seines	4,200	3,700	600
Dip nets	900	.....	900
Crowfoot dredges	155,000	155,000	.....

[1] Less than $100.

The product taken by crowfoot dredges largely exceeded the catch with all other forms of apparatus, comprising 14,431,000 pounds of mussel shells, which had a value, including pearls and slugs, of $155,000.

Mussel products.—The mussel fishery of the state has developed since 1903 and is responsible for almost the entire gain in the value of the fishery products of the Ohio River district since that date. The large value of the pearls and slugs is noteworthy, nearly equaling that of the mussel shells and exceeding the aggregate value of all food fish.

Lake trout.—The lake-trout catch was larger than that of any other species of fish reported for 1908. Over four-fifths of the catch was taken in the vessel fisheries, in which this species contributed the entire amount, with the exception of 3,000 pounds of lake herring. Trout were taken almost entirely with gill nets. The following comparative statement shows the catch for stated years:

YEAR.	LAKE-TROUT PRODUCT OF LAKE MICHIGAN DISTRICT.	
	Quantity (pounds).	Value.
1908	130,000	$9,600
1903	76,000	3,800
1899	35,000	2,000
1890	155,000	7,700

Lake herring.—Lake herring ranked second in value among the food fishes in 1908. The value of the product in 1890 was $3,200; in 1899, $7,200; and in 1903 only $2,300. By 1908 it had increased to $8,400.

Catfish.—Catfish and bullheads ranked next to lake herring in value in 1908. The Ohio River district furnished almost the entire catch. Over one-half of the catch was taken with fyke nets and most of the remainder with lines. Catfish formerly led in quantity and in value, but a great decline in both these respects was shown in 1908, as is indicated by the following tabular statement:

YEAR.	CATFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	102,000	$7,800
1899	288,000	18,000
1894	802,000	43,000

Yellow perch.—Yellow perch, with a catch of practically the same value as that of catfish, was a product of the shore and boat fisheries of Lake Michigan. The greater part of the catch was taken with gill nets, although considerable quantities were caught in pound nets. This species was taken in greater quantities in 1899 than in 1908, but the value was no greater in the earlier year.

Other products.—Drum and sturgeon were taken in both districts, the former mostly in the Ohio River district and the latter mostly in Lake Michigan. The catch of fresh-water drum decreased at about the same rate as that of catfish. The value of the yield from the Ohio River district alone was $20,000 in 1894, but by 1899 it had dropped to $11,000, while in 1908 the value of the catch for the whole state was only $7,600. The quantity has decreased in much the same proportions. The yield of the sturgeon product has been fluctuating, the lake catch being valued at $2,800 in 1890, $800 in 1899, $300 in 1903, and $6,300 in 1908.

The buffalo-fish product was valued at only a little less than that of either of the foregoing species. Nearly the whole catch was from the Ohio River and two-thirds was taken by fyke nets. The catch of buffalo fish shows a decrease in value from $17,000 in 1894 to $7,700 in 1899 and to $7,000 in 1908. German carp increased in weight and in value reported from $1,100 in 1894 to $2,300 in 1899 and to $6,000 in 1908.

TABLE 1.—INDIANA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.[1]		PRODUCT CAUGHT BY—											
			Gill nets.[1]		Pound nets.		Fyke nets.		Lines.		Seines.		Crowfoot dredges and dip nets.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	15,507,000	$223,000	285,000	$18,000	293,000	$18,000	284,000	$16,000	132,000	$11,000	70,000	$4,200	14,443,000	$156,000
Fish:														
Buffalo fish	124,000	7,000	.....	.....	3,400	100	83,000	4,500	27,000	1,700	11,000	600	.....	.....
Carp, German	128,000	6,000	.....	.....	16,000	500	75,000	3,400	6,700	500	30,000	1,600	200	(3)
Catfish and bullheads	102,000	7,800	.....	.....	1,300	100	59,000	4,500	37,000	2,800	4,600	300	.....	.....
Drum (fresh-water), or sheepshead	137,000	7,600	400	(3)	33,000	1,300	57,000	3,200	32,000	2,000	14,000	1,000	200	(3)
Lake herring	198,000	8,400	79,000	3,300	118,000	4,900	.....	.....	.....	.....	200	(3)	1,700	100
Lake trout	130,000	9,600	124,000	9,200	5,200	500	.....	.....	300	(3)	.....	.....	.....	.....
Ling, or eelpout	1,700	100	300	(3)	1,100	(3)	.....	.....	300	(3)	.....	.....	.....	.....
Perch, yellow	119,000	7,600	66,000	4,400	40,000	2,300	.....	.....	3,300	300	300	(3)	9,600	700
Pikeperch (wall-eyed pike)	3,100	300	.....	.....	100	(3)	2,200	300	200	(3)	600	100	.....	.....
Sturgeon	52,000	6,800	3,700	400	16,000	2,800	700	(3)	25,000	3,300	7,200	300	.....	.....
Caviar	300	400	.....	.....	300	400	.....	.....	.....	.....	.....	.....	.....	.....
Suckers and mullet	21,000	1,100	1,800	100	10,000	400	7,100	500	.....	.....	1,700	200	(4)	(3)
Trout, rainbow	2,700	300	.....	.....	2,700	300	.....	.....	.....	.....	.....	.....	.....	.....
Trout, perch	1,000	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	100
White bass	4,500	400	.....	.....	4,500	400	.....	.....	.....	.....	.....	.....	.....	.....
Whitefish	52,000	5,000	9,300	1,100	42,000	3,900	.....	.....	.....	.....	.....	.....	.....	.....
All other	600	100	100	(3)	500	100	.....	.....	.....	.....	.....	.....	.....	.....
Mussel shells	14,431,000	81,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,431,000	81,000
Pearls and slugs	.....	74,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	74,000

[1] All from the shore and boat fisheries, except 115,000 pounds, valued at $8,100, taken in the vessel fisheries with gill nets. This quantity comprised 3,000 pounds of lake herring, valued at $100, and 112,000 pounds of trout, valued at $8,000.
[2] Crowfoot dredges were used only in taking mussels.
[3] Less than 100 pounds.
[4] Less than $100.

TABLE 2.—INDIANA—FISHERY PRODUCTS OF OHIO RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Fyke nets.		Lines.		Seines and crowfoot dredges.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	14,886,000	$182,000	284,000	$16,000	113,000	$7,400	14,489,000	$158,000
Fish:								
Buffalo fish	121,000	6,900	83,000	4,500	27,000	1,700	11,000	600
Carp, German	100,000	5,000	75,000	3,400	6,700	500	19,000	1,100
Catfish and bullheads	101,000	7,600	59,000	4,500	37,000	2,800	4,600	300
Drum (fresh-water), or sheepshead	104,000	6,200	57,000	3,200	32,000	2,000	14,000	1,000
Pike perch (wall-eyed pike)	3,000	300	2,200	300	200	(2)	600	100
Sturgeon	17,000	800	700	(2)	9,500	500	7,200	300
Suckers	8,600	600	6,900	500	.....	.....	1,700	200
Mussel shells	[3] 14,431,000	81,000	.....	.....	.....	.....	[3] 14,431,000	81,000
Pearls and slugs	.....	74,000	.....	.....	.....	.....	.....	74,000
All other	100	(2)	100	(2)	.....	.....	.....	.....

[1] Crowfoot dredges were used only in taking mussels. [2] Less than $100. [3] Includes 60,000 pounds of mussel shells, valued at $500, from the Kankakee River.

TABLE 3.—INDIANA—FISHERY PRODUCTS OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.[1]		PRODUCT CAUGHT BY—					
			Gill nets.		Pound nets.		All other apparatus.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	622,000	$41,000	285,000	$18,000	293,000	$18,000	43,000	$4,700
Buffalo fish	3,700	100	.....	.....	3,500	100	200	(3)
Carp, German	27,000	1,000	.....	.....	16,000	500	12,000	600
Catfish and bullheads	1,300	100	.....	.....	1,300	100	.....	.....
Drum (fresh-water), or sheepshead	33,000	1,400	400	(3)	33,000	1,300	400	(3)
Eels	400	100	.....	.....	400	100	.....	.....
Lake herring	198,000	8,400	79,000	3,300	118,000	4,900	1,900	100
Lake trout	130,000	9,600	124,000	9,200	5,200	500	300	(3)
Ling, or eelpout	1,700	100	300	(3)	1,100	(3)	300	(3)
Perch, yellow	119,000	7,600	66,000	4,400	40,000	2,300	13,000	1,000
Sturgeon and caviar	35,000	6,300	3,700	400	16,000	3,200	15,000	2,800
Suckers	12,000	500	1,800	100	10,000	400	200	(3)
Trout, rainbow	2,700	300	.....	.....	2,700	300	.....	.....
Trout, perch	1,000	100	.....	.....	.....	.....	1,000	100
White bass	4,500	400	.....	.....	4,500	400	.....	.....
Whitefish	52,000	5,000	9,300	1,100	43,000	3,900	.....	.....
All other	300	(3)	100	(3)	200	(3)	(3)	(3)

[1] All from the shore and boat fisheries, except 115,000 pounds, valued at $8,100, taken in the vessel fisheries with gill nets. This quantity comprised 3,000 pounds of lake herring valued at $100, and 112,000 pounds of lake trout, valued at $8,000.
[2] Includes apparatus, with catch, as follows: Lines, 19,000 pounds, valued at $3,100; dip nets, 12,000 pounds, valued at $900; and seines, 12,000 pounds, valued at $600.
[3] Less than $100.

IOWA.

In 1908 Iowa held a relatively unimportant place among the states in which commercial fishing was carried on. It was, however, fourth among the states represented in the fisheries of the Mississippi River and its tributaries. The Mississippi and Missouri Rivers are the waters of chief importance in or bordering on this state, and the commercial fisheries of the state were practically confined to them. Small quantities of mussel shells were taken from the Iowa and Wapsipinicon Rivers, but the state laws prohibit the taking of fish in any of the interior rivers or lakes except by means of hook and line. No vessels were employed in the fisheries of the state. A summary of the statistics for 1908 is given in the following statement:

Number of persons employed	786
Capital:	
Boats	$38,000
Apparatus of capture	29,000
Shore and accessory property	11,000
Value of products	215,000

Comparison with previous canvasses.—The following tabular statement gives a comparison of the leading statistics for 1908 with those for 1894 and 1899, as shown in the reports of the Bureau of Fisheries:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Boats.	Apparatus of capture.	Quantity (pounds).	Value.
1908	786	$66,000	$38,000	$29,000	8,867,000	$215,000
1899	1,161	50,000	17,000	33,000	[1] 23,902,000	208,000
1894	944	39,000	15,000	25,000	4,080,000	125,000

[1] Includes 29,354,000 pounds of mussel shells.

From 1894 to 1899 there were fairly large increases in the number of persons employed, the total value of equipment, and the value of boats and of apparatus of capture. Fewer persons were employed in 1908 than in either of the other years for which a canvass was made, a fact which was due to the discontinuance of commercial fishing along the Skunk, Des Moines, and Big Sioux Rivers and in the lakes reported as fishing grounds in the former years.

The value reported for apparatus of capture was lower in 1908 than in 1899. The decrease did not, however, bring the value for 1908 as low as that reported in 1894; nor did it result in a reduction in the total value of equipment between 1899 and 1908, the tendency in that direction being more than offset by an increase in the value of boats.

The great changes in the quantity of products reflect the rise and decline of the mussel-shell industry rather than the development of the general fisheries of the state. If mussel shells, pearls, and slugs are eliminated from consideration, the weight of products as reported in 1894, 1899, and 1908 was, respectively, 3,932,000 pounds, 3,548,000 pounds, and 4,167,000 pounds, and the corresponding values were $123,000, $110,000, and $170,000. There were, therefore, in the case of products exclusive of mussel shells, decreases in both quantity and value in 1899, as compared with 1894; but from 1899 to 1908 there were increases which more than counterbalanced the preceding losses.

Persons employed.—The following tabular statement shows, for the state as a whole and for the two main fishing districts, the distribution of the persons employed, according to their relation to the industry:

DISTRICT.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	786	[1] 720	66	[2] $16,000
Mississippi River district	743	687	56	15,000
Missouri River district	43	33	10	1,200

[1] Exclusive of six proprietors not fishing.
[2] Includes provisions furnished to the value of $400.

In 1908, 95 per cent of the Iowa fishermen were employed in the basin of the Mississippi River. Of the total number, only 66, or less than 9 per cent, were wage-earners. The amount paid in wages was $16,000. There were no salaried employees reported.

Equipment and other capital.—The following tabular statement gives the value of the fishing equipment and other items of capital for the state in 1908, and its distribution between the Mississippi River and the Missouri River districts:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$77,000	$75,000	$1,400
Boats	38,000	37,000	500
Steam and motor	26,000	26,000	
Row	11,000	11,000	500
Other	600	600	
Apparatus of capture	29,000	28,000	700
Shore and accessory property	11,000	10,000	200

More than 97 per cent of the capital was invested in the Mississippi River district. The investment in boats formed 49 per cent of the total capital; the investment in apparatus of capture, 38 per cent; and that in shore and accessory property, 14 per cent. Power boats represented one-third of all the capital employed.

The number of the various kinds of apparatus used are shown in the next tabular statement.

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Fyke and hoop nets	2,455	2,389	66
Pound nets	403	403	
Seines	168	158	10
Spears	129	129	
Trammel nets	257	243	14
Traps, otter	748	748	

Products, by species.—Table 1, on page 126, shows the fishery products of the state in 1908, by species and by apparatus of capture.

Products, by fishing grounds.—Over 95 per cent of the value was from the Mississippi River district. The Missouri River products, aggregating 143,000 pounds, of a value of $9,300, are given in Table 2, on page 126, by species and by apparatus of capture; and by deducting the specific items from the corresponding items in the general state table, the products in detail of the Mississippi River district are readily ascertainable.

The distribution by districts of the chief products, ranked according to value, is given in the following tabular statement:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$215,000	$205,000	$9,300
Fish	167,000	158,000	9,300
Carp, German	62,000	57,000	4,800
Catfish and bullheads	33,000	31,000	2,800
Buffalo fish	23,000	22,000	1,000
Sturgeon and caviar	16,000	16,000	200
Suckers	6,600	6,600	
Black bass	5,600	5,600	
Drum, fresh-water	5,300	5,200	100
All other	15,000	14,000	400
Mussel products	44,000	44,000	
Shells	33,000	33,000	
Pearls and slugs	11,000	11,000	
All other	3,300	3,300	

Products, by apparatus of capture.—The following tabular statement shows the distribution of the value of products by waters and according to the kind of apparatus used in making the catch:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$215,000	$205,000	$9,300
Seines	68,000	64,000	3,300
Trammel nets	46,000	43,100	2,900
Crowfoot dredges	44,000	44,000	
Fyke and hoop nets	30,000	28,000	1,600
Lines	12,000	11,000	1,500
Pound nets	11,000	11,000	
All other	2,600	2,600	

As shown by the table on page 126, seines were used in the capture of every species of fish proper caught in any of the waters of the state, with the exception of eels, and the catch by seines represented 32 per cent of the total value of all products caught.

Trammel nets, with which fishery products aggregating 21 per cent of the total value for the state were caught, were also employed in taking a great number of species; but the catch with crowfoot dredges, ranking next and representing 20 per cent of the total value, consisted exclusively of mussel products.

Mussel products.—The comparison of the weight and value of several general classes of the products of the Iowa fisheries for 1894, 1899, and 1908, given in the following tabular statement, is of special interest, as showing the phenomenal growth of the mussel industry between 1894 and 1899 and its rapid decline since:

YEAR.	FISHERY PRODUCTS.							
	Total.		Fish.		Mussel shells, pearls, and slugs.		All other products.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	8,867,000	$215,000	4,071,000	$167,000	4,699,000	$44,000	97,000	$3,300
1899	23,902,000	208,000	3,369,000	110,000	20,354,000	97,000	18,000	400
1894	4,080,000	125,000	3,932,000	123,000	148,000	2,100		

[1] Includes frogs, turtles, and skins.

In 1899, 10,000 tons of mussel shells were dredged in the Iowa fisheries, while in 1894 only 74 tons were reported. Since 1899, however, the beds appear to have become gradually exhausted, and in 1908 only 2,300 tons were obtained. The value of the mussel product, which in 1894 was only $2,100, or less than 2 per cent of the value of the fishery products of the state, was $97,000 in 1899, or nearly 47 per cent of the total of all products in that year. By 1908 the value of the mussel shells had fallen to $44,000, or 20 per cent of the total value of fishery products. Nevertheless, at the last canvass of the states having fisheries along the Mississippi and its tributaries, only three—Arkansas, Illinois, and Indiana—reported a greater value of mussel-shell product than Iowa. Among the fishery products of Iowa at that date the value of the product of the mussel-shell industry was exceeded only by that of the carp catch.

Other leading products.—The German carp was the leading variety of fish in 1908, the value of the catch forming 29 per cent of the total value of products and being nearly twice as great as the value of the species next in importance—catfish and bullheads. From 1899 to 1908 the carp product increased from 1,039,000 pounds, valued at $23,000, to 2,048,000 pounds, valued at $62,000; that is, the product nearly doubled in weight and nearly tripled in value.

Catfish, buffalo fish, and fresh-water drum were each reported in smaller quantities in 1908 than in 1899, but increases occurred in the quantity and value of the suckers and black bass caught. The catch of sturgeon, however, gained greatly between the two canvasses, increasing from 44,000 pounds, valued at $1,400, to 223,000 pounds, valued at $16,000.

TABLE 1.—IOWA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Trammel nets.		Fyke and hoop nets.		Lines.		Pound nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	8,867,000	$215,000	1,877,000	$68,000	1,087,000	$46,000	625,000	$30,000	200,000	$12,000	321,000	$11,000	4,756,000	$47,000
Fish:														
Black bass	54,000	5,600	40,000	4,200	5,400	600	1,200	100	4,300	400	2,800	300		
Buffalo fish	566,000	23,000	222,000	8,400	112,000	4,800	150,000	6,900	17,000	700	54,000	2,000	1,500	100
Carp, German	2,048,000	62,000	1,004,000	29,000	562,000	18,000	265,000	8,600	65,000	2,100	150,000	4,300	2,000	100
Catfish and bullheads	418,000	33,000	182,000	11,000	18,000	1,700	109,000	11,000	74,000	7,400	35,000	2,300	2,000	100
Crappie	115,000	4,700	89,000	3,600	9,800	400	8,500	400	100	(2)	7,500	300		
Dogfish	7,800	100	7,800	100										
Drum, fresh-water	188,000	5,300	89,000	2,400	47,000	1,300	15,000	500	20,000	700	19,000	400		
Eels	5,400	600					800	100	4,400	500	300	(2)		
Paddlefish	6,900	300	5,600	300	1,300	100								
Perch, yellow	12,000	300	8,200	200			900	(2)			2,400	100		
Pike and pickerel	61,000	3,200	40,000	2,100	5,600	300	1,600	100	2,000	100	12,000	600		
Pike perch (wall-eyed pike)	38,000	2,700	25,000	1,800	4,200	400	1,600	100	2,600	200	4,300	300		
Sturgeon	215,000	11,000	20,000	1,100	184,000	9,500	300	(2)	8,700	500	800	(2)		
Caviar and paddlefish eggs	8,600	5,300	200	100	8,400	5,200								
Suckers	197,000	6,600	13,000	300	125,000	4,300	52,000	2,000			6,200	100		
Sunfish, or bream	127,000	2,700	107,000	2,200	5,000	200	3,000	100			12,000	300		
White bass	4,700	300	4,200	300					500	(2)				
Frogs	2,500	300												
Turtles	93,000	1,800	21,000	400			7,400	100	800	(2)	15,000	300	2,500	300
Mussel shells	4,699,000	33,000											49,000	1,000
Pearls and slugs		11,000											4,699,000	33,000
Skins, mink	[3] 100	400											[3] 100	400
Skins, muskrat	[4] 1,400	800											[4] 1,400	800

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, 4,699,000 pounds, valued at $44,000; hooks, spears, etc., 55,000 pounds, valued at $1,400; and mink and muskrat traps, 1,500 pounds, valued at $1,200.
[2] Less than $100.
[3] 100 skins.
[4] 4,300 skins.

TABLE 2.—IOWA—FISHERY PRODUCTS OF MISSOURI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Trammel nets.		Fyke and hoop nets.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	143,000	$9,300	56,000	$3,300	48,000	$2,900	21,000	$1,600	18,000	$1,500
Buffalo fish	16,000	1,000	6,000	300	5,800	400	2,600	200	1,600	100
Carp, German	89,000	4,800	36,000	1,900	35,000	1,900	12,000	700	6,100	400
Catfish	27,000	2,800	7,000	700	5,000	500	6,800	700	8,000	900
Drum, fresh-water	1,400	100	600	(1)	500	(1)	300	(1)		
Paddlefish	6,900	300	5,600	300	1,300	100				
Pike and pickerel	600	100	400	(1)	200	(1)				
Sturgeon	3,100	200	700	(1)	400	(1)			2,000	100

[1] Less than $100.

KANSAS.

The fishing industry is not important in Kansas, and commercial fishing in 1908, which was entirely of the shore and boat class, was confined to the Missouri River and to the part of the Kansas River near its mouth. The principal statistics of the fisheries of the state are summarized in the following statement:

Number of persons employed	97
Capital:	
Boats	$3,200
Apparatus of capture	3,900
Shore and accessory property and cash	2,200
Value of products	28,000

Comparison with previous canvasses.—A comparison of the statistics for 1908 and those for former years, which were secured by the Bureau of Fisheries, is presented in the following tabular statement. There was a decrease in the number of persons engaged in the industry, but an increase of over 100 per cent in the value of the equipment and in the value of the product.

YEAR.	Persons employed.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Boats.	Apparatus of capture.	Quantity (pounds).	Value.
1908	97	$7,100	$3,200	$3,900	432,000	$28,000
1899	118	3,300	1,300	2,000	278,000	14,000
1894	61	3,000	700	2,300	242,000	11,000

Persons employed.—Of the 97 persons employed in the fisheries of Kansas, 90 were proprietors and independent fishermen. The seven wage-earners received, including provisions furnished, the sum of $400.

Equipment and other capital.—The value of the equipment and other capital reported for the Kansas fisheries in 1908, and the number of the various kinds of boats used, are shown in the following tabular statement:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.	
	Number.	Value.
Total	.....	$9,300
Boats	94	3,200
Steam and motor	9	1,500
Row	83	1,500
Other	2	200
Apparatus of capture	.....	3,900
Shore and accessory property	.....	1,600
Cash	.....	600

The total investment in apparatus of capture was $3,900, of which amount $2,900 represented the value of 620 fyke and hoop nets, which were by far the most important forms of apparatus. There were 32 trammel nets and 17 seines reported.

Products.—The total product, which amounted to 432,000 pounds, valued at $28,000, is shown in detail, by species and by apparatus of capture, in the following table.

German carp formed by far the most important fishery product, the total catch in 1908 being 304,000 pounds, valued at $19,000, or 70 per cent of the quantity and 68 per cent of the value of all fishery products of the state. The quantity and value reported for this fish have increased to a great extent since 1894, when the catch was 19,000 pounds and the value $600.

Catfish, on the other hand, showed a large decrease, the total catch in 1908 being only 52,000 pounds, valued at $4,400, compared with 95,000 pounds, valued at $6,100, in 1899. Buffalo fish also showed a decrease between 1899, when the catch was 52,000 pounds, valued at $2,200, and 1908, when it was 35,000 pounds, valued at $2,000.

Fyke and hoop nets, trammel nets, and seines were the chief forms of apparatus of capture used, German carp representing most of the value of the catch in each case.

KANSAS—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Fyke and hoop nets.		Trammel nets.		Seines.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	432,000	$28,000	154,000	$10,000	125,000	$8,000	124,000	$7,700	30,000	$2,400
Buffalo fish	35,000	2,000	13,000	700	12,000	700	11,000	600		
Carp, German	304,000	19,000	112,000	7,200	89,000	5,600	89,000	5,400	14,000	900
Catfish	52,000	4,400	16,000	1,300	11,000	900	12,000	900	14,000	1,300
Drum, fresh-water	18,000	1,100	5,200	300	6,800	400	5,200	300	1,000	100
Pike perch (wall-eyed pike)	6,600	500	1,700	100	2,700	200	2,200	200		
Sturgeon	7,300	400	2,800	200	1,800	100	1,600	100	1,100	100
Suckers	1,900	100	800	(1)	700	(1)	400	(1)		
Sunfish	2,300	100	1,000	100	600	(1)	500	(1)	200	(1)
All other	4,000	300	1,000	100	1,000	100	2,200	100		

[1] Less than $100.

KENTUCKY.

The fisheries of Kentucky, all of which are of the shore and boat class, fall into two main divisions, those of the Mississippi River and its small tributaries in the western part of the state and those of the Ohio River and its tributaries, including the Tennessee and the Cumberland Rivers. In respect to quantity, mussel shells, buffalo fish, and German carp were the leading products, in the order named, while in respect to value, catfish, buffalo fish, and German carp led, in the order named. The mussel shell and pearl industry is of recent development. The following statement gives a summary of the industry for 1908:

Number of persons employed	555
Capital:	
Boats	$11,000
Apparatus of capture	21,000
Shore and accessory property	6,600
Value of products	110,000

Comparison with previous canvasses.—A comparison of the industry in 1908 with certain earlier years, for

which statistics collected by the Bureau of Fisheries are available, is given in the following tabular statement:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	544	$32,000	$11,000	$21,000	5,390,000	$110,000
1899	551	30,000	10,000	19,000	1,753,000	79,000
1894	587	33,000	10,000	23,000	2,274,000	90,000

The large increase shown for 1908 in quantity of product was due almost entirely to the mussel fisheries, which were not reported in the preceding canvasses.

Persons employed.—The following tabular statement gives the statistics of the persons employed in the Kentucky fisheries in 1908:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	555	432	103	$6,600
Mississippi River district	87	79	8	600
Fishermen	87	79	8	600
Ohio River district	408	373	95	5,900
Fishermen	457	373	84	[1] 5,400
Shoresmen	11		11	600

[1] Includes provisions furnished to the value of $400.

The fishing was done on a small scale, and the prevailing type of person engaged in this pursuit was the independent fisherman. All the shoresmen and a large proportion of the other wage-earners were employed in the mussel industry. The small amount paid in wages indicates that the wage-earners were engaged in the fisheries only a part of the time.

Equipment and other capital.—The value of the equipment and the amount of other capital employed are shown below:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Ohio River district.	Mississippi River district.
Total	$39,000	$29,000	$9,400
Boats	11,000	8,300	2,800
Motor	4,500	3,600	900
Row	6,600	4,700	1,900
Apparatus of capture	21,000	16,000	4,400
Shore and accessory property	6,600	4,400	2,200

Boats constituted somewhat less than one-third of the total investment and apparatus of capture more than one-half. For the entire state 479 rowboats and 32 motor boats were reported, 399 of the former and 26 of the latter being used in the Ohio River district. Fyke and hoop nets largely predominated among the apparatus of capture, 2,513 being used in the Ohio River district and 767 in the Mississippi River district. Thirty-six seines and one trammel net were reported for the Ohio River district and four seines and one trammel net for the Mississippi River district.

Products, by species.—The products for 1908 were distributed by species and apparatus of capture as shown in Table 1, on page 129. Thirteen species of fish were reported, besides turtles and mussels. Five of the products together represented more than nine-tenths of the total, both in weight and value. In order of value they were catfish, buffalo fish, mussel products (including shells and pearls), German carp, and fresh-water drum. In 1899 mussels were not reported and the German carp was of minor importance, but catfish, buffalo fish, and drum led in the order named, and together contributed nearly 73 per cent of the total product, both in weight and in value.

Products, by fishing grounds.—Table 2, on page 129, gives in detail the fishery products of the state from the Ohio River and its tributaries, and Table 3, on page 130, those from the Mississippi River and its tributaries other than the Ohio River.

In the Ohio River district the leading species were, in the order of their value, the mussel, catfish, buffalo fish, fresh-water drum, and carp, which together formed 91 per cent of the total value of products. The most important fishing grounds in this district are those of the Ohio River. The products of the Mississippi River district constituted about one-third in quantity of the total product of the state, exclusive of mussel shells. Catfish, buffalo fish, carp, and drum formed the bulk of the catch and contributed over 93 per cent of the total for the district, both in weight and in value.

Products, by apparatus of capture.—Crowfoot dredges, used exclusively for mussels, took more than 63 per cent of the product. In value, however, the catch by crowfoot dredges was exceeded by the catch by fyke and hoop nets and that by lines. The product taken by fyke and hoop nets contributed 43 per cent of the total value, and that taken by lines over 27 per cent. In the Mississippi River district 96 per cent of the total quantity was taken by these two forms of apparatus, and in the Ohio River district 23 per cent of the total. Nearly all the seine catch was from the Ohio River fisheries. More than one-half of the catch by lines consisted of catfish, and more than half of the catfish catch was taken by lines.

Catfish.—The catch of catfish represented in 1908 nearly 24 per cent of the total value of the fishery products of the state. The yield was slightly larger,

in respect to both quantity and value, than in 1899, although its relative importance was somewhat greater at the earlier date, when it contributed 26 per cent of the value of the total fishery yield of the state. Two-thirds of the value of this species was from the Ohio River district, and one-third from the Mississippi River district.

Buffalo fish.—This product in 1908 was credited with about 20 per cent of the total value of the catch. The species showed a substantial increase in both quantity and value over the figures for 1899, but declined somewhat in relative importance. Of the value of the catch of buffalo fish, 71 per cent was reported from the Ohio River district.

Mussel products.—Mussel shells, together with pearls and slugs, ranked third in value of products, and contributed 18 per cent of the total value of products. The mussel product, which in 1908 appears for the first time in the statistics of the commercial fisheries of Kentucky, was entirely from the Ohio River district.

German carp.—This fish has advanced from the position of a minor species, with a value of $3,100 in 1899, to fourth rank in 1908, with a value of $18,000, one-sixth of the total for the state. The Ohio River district reported the greater portion of the catch.

Fresh-water drum.—This is the only important species which shows a decrease in quantity and value since 1899. In that year 391,000 pounds were taken, valued at $19,000, or 24 per cent of the total value of products for the state. Four-fifths of the drum catch was from the Ohio River district.

TABLE 1.—KENTUCKY—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Lines.		Crowfoot dredges.		Seines.		Trammel nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	5,390,000	$110,000	1,122,000	$47,000	598,000	$30,000	3,413,000	$20,000	247,000	$12,000	9,600	$400
Fish:												
Black bass	7,100	700	1,600	200	2,700	300			2,600	200	200	(1)
Bream, or sunfish	4,300	300	700	(1)	100	(1)			3,200	100	300	(1)
Buffalo fish	530,000	21,000	392,000	15,000	76,000	3,300			61,000	2,600	1,000	(1)
Carp, German	449,000	18,000	305,000	12,000	78,000	3,200			61,000	2,700	5,000	200
Catfish	436,000	26,000	120,000	8,000	295,000	17,000			21,000	1,200		
Crappie	12,000	900	1,800	100	700	(1)			9,300	600	700	100
Drum, fresh-water	354,000	16,000	197,000	8,000	120,000	5,700			36,000	2,400	2,000	100
Eels	300	(1)			300	(1)						
Paddlefish	65,000	1,700	53,000	1,300					11,000	400		
Pike perch (wall-eyed pike)	8,400	700	5,100	500	2,600	200			300	(1)	400	(1)
Rock bass and white bass	2,200	200	1,100	100	800	100			300	(1)		
Sturgeon, shovelnose	60,000	2,400	10,000	500	21,000	600			29,000	1,300		
Suckers	46,000	2,100	34,000	1,300					12,000	800		
Turtles	1,900	(1)			1,900	(1)						
Mussel shells	3,413,000	18,000					3,413,000	18,000				
Pearls and slugs		1,900						1,900				

[1] Less than $100.

TABLE 2.—KENTUCKY—FISHERY PRODUCTS OF OHIO RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Lines.		Crowfoot dredges.		Seines.		Trammel nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	4,765,000	$87,000	719,000	$34,000	397,000	$21,000	3,413,000	$20,000	231,000	$12,000	4,000	$200
Fish:												
Black bass	6,200	600	1,600	200	2,700	300			1,900	200		
Bream, or sunfish	2,900	100	500	(1)	100	(1)			2,300	100		
Buffalo fish	345,000	15,000	216,000	9,800	70,000	3,100			58,000	2,500	1,000	(1)
Carp, German	289,000	13,000	177,000	7,900	51,000	2,300			59,000	2,600	2,000	100
Catfish	273,000	17,000	101,000	6,900	152,000	9,300			20,000	1,100		
Crappie	6,800	500	1,200	100	100	(1)			5,400	400		
Drum, fresh-water	281,000	14,000	143,000	6,600	101,000	5,200			35,000	2,400	1,000	(1)
Eels	100	(1)			100	(1)						
Paddlefish	37,000	1,000	29,000	700					8,000	300		
Pike perch (wall-eyed pike)	6,800	600	4,600	400	1,900	100			300	(1)		
Rock bass	1,400	100	800	100	400	(1)			200	(1)		
Sturgeon, shovelnose	58,000	2,400	10,000	500	19,000	600			29,000	1,300		
Suckers	46,000	2,100	34,000	1,300					12,000	800		
Mussel shells	3,413,000	18,000					3,413,000	18,000				
Pearls and slugs		1,900						1,900				

[1] Less than $100.

TABLE 3.—KENTUCKY—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Fyke and hoop nets.		Lines.		Seines.		Trammel nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	625,000	$23,000	402,000	$13,000	201,000	$9,400	16,000	$700	5,600	$200
Fish:										
Black bass	1,000	100					700	100	200	(1)
Bream, or sunfish	1,400	100	300	(1)			900	(1)	300	(1)
Buffalo fish	185,000	6,000	176,000	5,700	6,000	200	3,000	100		
Carp, German	161,000	5,200	128,000	4,100	28,000	900	2,400	100	3,000	100
Catfish	163,000	8,800	19,000	1,100	143,000	7,700	1,100	100		
Crappie	5,700	300	500	(1)	600	(1)	3,900	200	700	100
Drum, fresh-water	74,000	1,900	53,000	1,400	19,000	400	700	(1)	1,000	(1)
Eels	200	(1)			200	(1)				
Paddlefish	28,000	700	25,000	600			3,300	100		
Pike perch (wall-eyed pike)	1,600	100	600	(1)	600	(1)			400	(1)
Rock bass and white bass	800	100	300	(1)	400	(1)	100	(1)		
Sturgeon, shovelnose	2,000	100			2,000	100				
Turtles	1,900	(1)			1,900	(1)				

[1] Less than $100.

LOUISIANA.

Of the states bordering upon the Gulf of Mexico, Louisiana in 1908 was second in the extent of her fisheries, ranking next to Florida. In addition to the Gulf fisheries Louisiana has fisheries along the Mississippi River and its tributaries, chief among which is the Red River. A large local trade in fish and oysters has its center at New Orleans, and there are in addition small wholesale markets for fish at New Orleans and Morgan City, and for oysters at Morgan City and Houma.

The following statement presents a summary of the chief statistics for the state's fisheries in 1908:

Number of persons employed	5,795
Capital:	
Vessels and boats, including outfit	$794,000
Apparatus of capture	95,000
Shore and accessory property and cash	40,000
Value of products	1,569,000

Comparison with previous canvasses.—No statistics concerning the fisheries of Louisiana for years previous to 1908 apply to the entire state, but since the value of the product of the Gulf fisheries constituted, in 1908, 92 per cent of the total value for the state, the statistics compiled at different times for this branch of the state's fisheries represent fairly the development in the state as a whole.

The following tabular statement gives a comparative summary of the principal statistics of the fisheries of the Gulf district of Louisiana for the canvasses of 1890, 1897, and 1908, and those of the Mississippi River district of the state for 1899 and 1908:

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
Gulf of Mexico district:						
1908	4,849	$810,000	$729,000	$82,000	42,302,000	$1,448,000
1897 [1]	3,719	271,000	239,000	32,000	17,402,000	714,000
1890	3,608	294,000	255,000	39,000	20,789,000	660,000
Mississippi River district:						
1908	643	79,000	66,000	13,000	3,803,000	121,000
1899	324	17,000	10,000	7,000	1,942,000	57,000

[1] The figures are below normal, owing to quarantine.

In Louisiana, as in other states bordering on this body of water, the fisheries of the Gulf of Mexico show an increase in recent years in each of the items covered by the tabular statement, with the exception that in 1897, owing to the fact that a quarantine was in force for a large part of the year, fishing operations were curtailed and the capital and quantity of product reported were less than in 1890. In the Mississippi River fisheries the amount of capital invested in equipment increased 365 per cent between 1899 and 1908, and in each of the other items there was an increase of more than 86 per cent. In the Gulf district the gain in quantity of product has been much greater than the gain in value; in the Mississippi River district quantity has increased but very little faster than value.

Persons employed.—The statistics of the persons employed in the Louisiana fisheries in 1908 are as follows:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	5,795	[1] 2,963	2	2,830	$570,000	$1,700	[2] $568,000
Gulf of Mexico district	5,152	2,472	2	2,678	536,000	1,700	535,000
Vessel fisheries	503	72	.....	431	98,000	.....	98,000
Transporting vessels	180	19	2	159	51,000	1,700	49,000
Shore and boat fisheries	4,466	2,381	.....	1,785	341,000	.....	341,000
Shoresmen	303	.....	.....	303	45,000	.....	45,000
Mississippi River district	643	491	.....	152	33,000	.....	33,000
Transporting vessels	34	1	.....	33	10,000	.....	10,000
Shore and boat fisheries	609	490	.....	119	23,000	.....	23,000

[1] Exclusive of 73 proprietors not fishing.
[2] Includes provisions furnished to the value of $145,000.

The persons employed in the shore and boat fisheries, including 244 shoresmen, outnumbered those employed in the vessel fisheries, including 59 shoresmen, the total figures being 5,019 and 562, respectively. The total number employed in transporting vessels was 214. The number of wage-earners was smaller than the number of proprietors and independent fishermen. The shore and boat fisheries are credited with 2,871 of the 2,963 proprietors and independent fishermen actually engaged in fishing, and with 2,148 of the 2,832 employees. In vessel fisheries employees outnumbered proprietors and independent fishermen, the ratio being about 6 to 1, and for transporting vessels the ratio was nearly 10 to 1; but in shore and boat fisheries proprietors and independent fishermen were more numerous than wage-earners, in the ratio of 4 to 3. The wages and salaries paid equaled 36 per cent of the value of the products.

Equipment and other capital.—The following table gives statistics of the capital invested in Louisiana fisheries in 1908:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$929,000	$841,000	$88,000
Vessels, including outfit	441,000	408,000	32,000
Fishing	154,000	154,000	.....
Steam and motor	63,000	63,000	.....
Vessels	46,000	46,000	.....
Outfit	17,000	17,000	.....
Sail	91,000	91,000	.....
Vessels	62,000	62,000	.....
Outfit	29,000	29,000	.....
Transporting	286,000	254,000	32,000
Steam and motor	243,000	211,000	32,000
Vessels	193,000	168,000	25,000
Outfit	50,000	43,000	7,000
Sail	1,100	700	400
Vessels	1,000	600	400
Outfit	100	100	.....
Other	42,000	42,000	.....
Boats	354,000	321,000	33,000
Steam and motor	67,000	45,000	22,000
Sail	239,000	238,000	1,000
Row	47,000	38,000	9,000
Other	600	400	100
Apparatus of capture	95,000	82,000	13,000
Shore and accessory property	39,000	30,000	9,000
Cash	1,100	200	900

In 1908 slightly over half of the investment in Louisiana fisheries, or $479,000, was in shore and boat fisheries. Transporting vessels accounted for $289,000 of the capital, and fishing vessels for $162,000. Of the value of shore and accessory property, $1,200 pertained to vessel fisheries, $2,500 to transporting vessels, and $35,000 to shore and boat fisheries. Of the cash capital, $900 was reported in connection with the shore and boat fisheries in the Mississippi River district, and $200 in connection with transporting vessels in the Gulf district. Over 85 per cent of the total capital was invested in craft of various kinds and their outfits.

The number and tonnage of vessels and the number of boats were as follows:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Vessels:			
Number	222	210	12
Tonnage	2,082	1,961	121
Fishing—			
Number	126	126	.....
Tonnage	979	979	.....
Steam and motor—			
Number	18	18	.....
Tonnage	205	205	.....
Sail—			
Number	108	108	.....
Tonnage	774	774	.....
Transporting—			
Number	96	84	12
Tonnage	1,103	982	121
Steam and motor—			
Number	71	61	10
Tonnage	1,082	975	107
Sail—			
Number	3	1	2
Tonnage	21	7	14
Other, number	22	22	.....
Boats, number	4,469	3,846	623
Steam and motor	192	116	76
Sail	886	876	10
Row	3,352	2,818	534
Other	39	36	3

The number of the various kinds of apparatus used is shown in the following tabular statement:

KIND.	APPARATUS OF CAPTURE: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Gulf of Mexico district.	Mississippi River district.	Vessel fisheries.	Shore and boat fisheries.
Cast nets	373	345	28	.....	373
Dip nets	1,142	758	384	.....	1,142
Firearms	505	502	3	.....	505
Fyke and hoop nets	1,026	160	866	.....	1,026
Gill nets	62	59	3	7	55
Harpoons, spears, etc	100	100	.....	.....	100
Pots, crawfish	466	226	240	.....	466
Pound and trap nets	3	.....	3	.....	3
Seines	314	285	29	20	294
Shrimp nets	3,803	48	3,755	.....	3,803
Trammel nets	8	8	.....	.....	8
Traps—mink, muskrat, and otter	60,770	60,770	.....	.....	60,770
Traps, turtle	500	500	.....	.....	500

Products, by species.—Table 1, on page 135, gives statistics for 1908 of the quantity and value of the product of the Louisiana fisheries by species and by apparatus of capture. Forty-one species made up

this product. Oysters represented more than one-half its weight and about half its value. Ranked according to value of product, shrimp, catfish, squeteague, and mink skins followed, in the order named, and together with oysters amounted to 39,662,000 pounds, valued at $1,277,000, or 86 per cent of the total weight and 81 per cent of the total value. In 1897 the four species of fish named were in the lead, and contributed about 80 per cent of the total weight and 83 per cent of the total value. Mink skins were not reported at the canvass of 1897.

Products, by fishing grounds.—Table 2, on page 136, gives, by species and apparatus of capture, the weight and value of the products of the Louisiana fisheries in the Gulf of Mexico. Of the forty-odd species taken in Louisiana fisheries, 27 were reported exclusively from the Gulf of Mexico district. The value of the entire product of this district was $1,448,000, while the value reported for these 27 species was $1,115,000. Among the latter the oysters, as would be expected, were the most important, having a value of $763,000. The next in value of the products reported only for the Gulf fisheries were squeteague and mink skins, valued at $82,000 and $77,000, respectively; while other important products were salt-water drum (channel bass), croakers, soft crabs, and terrapin, valued at $39,000, $28,000, $21,000, and $21,000, respectively.

The product reported by the fisheries of the Mississippi River and its tributaries, all of which are of the shore and boat class, had about one-eleventh the weight and one-twelfth the value of that reported for the Gulf district. The distribution of the products of these fisheries is shown in Table 3, on page 136. Fifteen species comprised the river product, five of which—carp, crappie, eels, pike perch (wall-eyed), and suckers—were not found in the Gulf product. Catfish, buffalo fish, and shrimp, in the order named, were the most valuable species in the products of this district, furnishing a little more than three-fourths of both the weight and the value of the catch. Catfish and buffalo fish headed the list in 1899 also, together representing at that time three-fourths of the weight and two-thirds of the value of the products from the district.

The value of the different products reported for 1908, arranged in the order of importance, is shown in the next tabular statement for the state as a whole and for the Gulf of Mexico and Mississippi River districts.

Of the species reported for both the Gulf and the river fisheries, shrimp and catfish were the most valuable. The shrimp product reported by the Gulf district was valued at $196,000 and the river product at only about one-twelfth as much, $17,000; the catfish product of the Gulf district was valued at $89,000 and the river product at $54,000. The total value of the other species common to both districts, including caviar, was $90,000, of which the Gulf fisheries contributed $47,000 and the river fisheries $43,000. In the case of three species—namely, black bass, freshwater drum, and paddlefish—the greater value came from the Mississippi River district, while in the case of the four remaining species—bream, buffalo fish, crawfish, and turtles—the product of the Gulf district represented the greater value.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$1,569,000	$1,448,000	$121,000
Fish	419,000	316,000	103,000
Catfish	143,000	89,000	54,000
Squeteague	82,000	82,000	.....
Buffalo	50,000	28,000	22,000
Drum (salt-water), or channel bass	39,000	39,000	.....
Croaker	28,000	28,000	.....
Sheepshead	18,000	18,000	.....
Drum, fresh-water	15,000	6,900	8,400
All other	45,000	26,000	19,000
Oysters	763,000	763,000	.....
Shrimp	213,000	196,000	17,000
Skins—mink, muskrat, and otter	98,000	98,000	.....
Crabs, soft	21,000	21,000	.....
Terrapin	21,000	21,000	.....
Hides, alligator	11,000	11,000	.....
All other	24,000	22,000	1,700

Products, by class of fisheries.—The products of the vessel fisheries of Louisiana are shown in Table 4, on page 137, by species and by apparatus of capture. These fisheries, all of which are in the Gulf of Mexico, are of small proportions, their products representing only 15 per cent of the total weight and 11 per cent of the total value for the state. Of the product of the vessel fisheries, oysters contributed 92 per cent in weight and 84 per cent in value; the remainder comprised 18 species, all of which were taken in the shore and boat fisheries of the Gulf. Shore and boat fisheries were common to both the Gulf of Mexico and the Mississippi River districts. This class of fisheries formed the most important branch not only of the Gulf fisheries but also of the fisheries of the state as a whole, furnishing a total product of 39,344,000 pounds, valued at $1,395,000, or nearly six times the quantity and over eight times the value of the product of the vessel fisheries. Statistics as to the products of the shore and boat fisheries of the Gulf fishing grounds are given in Table 5, on page 137. Seventy-seven per cent of the total weight and 81 per cent of the total value of the products of the Louisiana fisheries came from the shore and boat fisheries of the Gulf district. Hence the leading species for this district were the same as those in the fisheries of the entire state. All the skins included in the state product were from the shore and boat fisheries of the Gulf district.

The following tabular statement shows the distribution, by species, of the value of products between the vessel fisheries and the shore and boat fisheries:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,569,000	$174,000	$1,395,000
Fish	419,000	16,000	404,000
Catfish	143,000	1,300	141,000
Squeteague	82,000	5,000	77,000
Buffalo	50,000	(1)	50,000
Drum (salt-water), channel bass, or red fish	39,000	2,700	36,000
Croaker	28,000	3,300	24,000
Sheepshead	18,000	2,000	16,000
Drum, fresh-water	15,000	400	15,000
All other	45,000	1,800	44,000
Oysters	763,000	146,000	617,000
Shrimp	213,000	8,800	204,000
Skins—mink, muskrat, and otter	98,000	.....	98,000
Crabs, soft	21,000	.....	21,000
Terrapin	21,000	2,900	18,000
Hides, alligator	11,000	.....	11,000
All other	24,000	600	23,000

[1] Less than $100.

Products, by apparatus of capture.—The distribution of the total value of products by apparatus of capture for 1908, for the state as a whole and for the two classes of fisheries, was as follows:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,569,000	$174,000	$1,395,000
Dredges, tongs, etc.	763,000	146,000	617,000
Seines	400,000	28,000	372,000
Lines	203,000	.....	203,000
Mink, muskrat, and otter traps	98,000	.....	98,000
Fyke and hoop nets	32,000	.....	32,000
Shrimp nets	19,000	.....	19,000
Dip nets	15,000	.....	15,000
All other	41,000	100	41,000

Dredges, tongs, etc., were the principal apparatus of capture used in both classes of fisheries of the Gulf district. Except for a very small quantity of periwinkles, oysters were the only species taken by this kind of apparatus. The proportions given below for oysters apply in full to the product taken with dredges, tongs, etc.

The weight and value of the product taken by seines made them second in importance as an apparatus of capture in the entire state and in each branch of the Gulf fisheries. Seines were used for taking 30 species, chief of which were shrimp, squeteague (or sea trout), and buffalo fish. The value of the catch by this form of apparatus represented nine-tenths of the value of the shrimp taken in the state, more than two-thirds of the value of the squeteague, and more than one-half of the value of the buffalo fish. Practically all of the shrimp taken either in the vessel fisheries or in the shore and boat fisheries of the Gulf district and practically all of the squeteague taken in the vessel fisheries were caught with seines. Of the squeteague product taken by the shore and boat fisheries, 74 per cent of the quantity was taken by seines. In 1897 seines showed a product slightly heavier than that of tongs, but the value of the catch was not relatively as important as in 1908.

Lines were third in importance as apparatus of capture in the shore and boat fisheries of the Gulf district and in the fisheries of the state as a whole. They ranked first in the Mississippi River fisheries, but were not employed in the vessel fisheries. Twenty-two species made up the catch by lines for the state; yet one species, catfish, contributed 58 per cent of the value of this product, as well as 50 per cent of the value of the product of the shore and boat fisheries of the Gulf. In 1897 the total catch by lines was 3,150,000 pounds, valued at $64,000, almost three-fifths as much as the quantity reported in 1908, but representing a value less than a third as great.

A great many other kinds of apparatus of capture were used to take the remainder of the product, which was valued at $203,000 and represented about one-eighth of the value for the entire state. The most important of these kinds of apparatus were fyke and hoop nets, which took products valued at $32,000, and shrimp nets and dip nets, which took products valued at $19,000 and $15,000, respectively. To minor apparatus $20,000 was credited.

The following tabular statement shows the distribution of the total value of fishery products, by apparatus of capture, between the Gulf of Mexico and the Mississippi River districts:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$1,569,000	$1,448,000	$121,000
Dredges, tongs, etc.	763,000	763,000	.....
Seines	400,000	383,000	17,000
Lines	203,000	141,000	61,000
Mink, muskrat, and otter traps	98,000	98,000	.....
Fyke and hoop nets	32,000	7,800	24,000
Shrimp nets	19,000	1,500	17,000
Dip nets	15,000	15,000	.....
All other	41,000	39,000	2,200

Oysters.—In 1908 the Louisiana oyster product amounted to 3,650,000 bushels, or, computed on the basis of contained meat, 25,553,000 pounds, valued at $763,000. That this product represents a remarkable growth over previous years is shown by the following tabular statement:

YEAR.	OYSTER PRODUCT.			
	Quantity (bushels).	Value.	Per cent of total for all fishery products.	
			Quantity (bushels).	Value.
1908	3,650,000	$763,000	55	49
1897	959,000	433,000	39	61
1890	842,000	300,000	28	45
1880	295,000	200,000	29	51

The gain in the quantity of oysters between 1897 and 1908 constitutes two-thirds of the gain in the entire fishery product of the state, while for the period from

1880 to 1908 it constitutes about three-fifths of the total gain. The price of oysters, however, has fallen to such an extent that, although the quantity in 1908 was more than three and one-half times as large as in 1897 and about four and one-half times as large as in 1890, the value of the product increased only 76 per cent in the former period and 154 per cent in the latter.

Oysters were reported only from the Gulf district. Here the shore and boat fisheries took 2,763,000 bushels, valued at $617,000, and the vessel fisheries 888,000 bushels, valued at $146,000. While the "relaying" of oysters in salt water in order to improve their flavor was quite extensive in 1880, according to the Geographical Review of the Fisheries,[1] very little oyster planting was done at that date. Although the planting seems to have reached a considerable extent by 1897, the first collected data are those of the present census. In 1908 over one-third of the market oysters came from private areas. As the price of oysters from private areas, owing to their superior flavor, is much higher than that of oysters from public areas, the product from the former areas, though much smaller in quantity, was nearly as valuable as the product from the latter. In the case of seed oysters conditions were reversed, the yield of the public areas, which formed only about six-sevenths of the quantity of seed oysters, representing thirteen-fourteenths of the value.

The practice of relaying mature oysters to improve their flavor probably accounts in part for the high average price of the seed oysters taken from the public areas in the shore and boat fisheries, as compared with the price of the seed oysters in the same class of fisheries taken from private areas.

Shrimp.—Ninety-six per cent of the shrimp taken and 88 per cent of their value were credited to the shore and boat fisheries of the Gulf of Mexico district. Of the remaining product, the fisheries of the Mississippi River and its tributaries furnished a little more than two-fifths of the weight and nearly two-thirds of the value. The growth in the shrimp product within the period for which statistics are available has been very irregular, as is shown in the following tabular statement:

[1] The Fisheries and Fishery Industries of the United States, section 2, p. 580.

YEAR.	SHRIMP PRODUCT.	
	Quantity (pounds).	Value.
1908	8,581,000	$213,000
1897	4,487,000	81,000
1890	6,662,000	91,000
1880	534,000	42,000

Catfish.—In order of value catfish ranked third in the state as a whole and in the Gulf district, and first in the Mississippi River district, where it contributed 39 per cent of the quantity and 45 per cent of the value of the entire product. More than one-third of the value of the entire catfish haul came from the Mississippi River fisheries, and with the exception of a very small quantity reported by vessel fisheries all of the remainder was from the shore and boat fisheries of the Gulf. The species has shared in the general increase shown by the products of the Louisiana fisheries. In 1880 it was not reported separately, but was included in "Other species;" in 1897 the yield was 1,950,000 pounds, valued at $47,000; and in 1908 the product was more than twice as large and more than three times as valuable.

Squeteague, or sea trout.—This species was taken only in the Gulf district, 92 per cent of the quantity and 94 per cent of the value being reported by the shore and boat fishermen. The weight of the catch taken has nearly doubled, and its value has trebled since 1897. In 1880 the squeteague was included under the head of "Other species."

Buffalo fish.—Buffalo fish, like catfish, were taken but little in vessel fisheries. In 1908 they ranked third among the fishery products of the state and second among the products of the Mississippi River district. Over half of the weight of the buffalo-fish catch was reported by the Mississippi River district, but the Gulf shore and boat catch, less by about 40,000 pounds, had a greater value. In 1880 buffalo fish were included under the head of "Other species," and in 1897 they furnished a product which had only about one-eighth of the weight and one-tenth of the value of that of 1908.

Mink skins.—This product, which ranked fifth with respect to value at the census of 1908, was not reported at prior canvasses.

TABLE 1.—LOUISIANA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Lines.		Fyke and hoop nets.		Trammel nets.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	46,106,000	$1,569,000	12,496,000	$400,000	3,329,000	$203,000	1,758,000	$32,000	71,000	$5,800	24,000	$900	26,427,000	$928,000
Fish:														
Black bass	40,000	3,300	9,700	800	30,000	2,500	.....	.....	.....	.....	.....	.....	.....	.....
Bluefish	2,800	100	2,700	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bream, or sunfish	40,000	2,200	21,000	1,200	20,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo fish	2,620,000	50,000	1,226,000	29,000	372,000	5,900	998,000	15,000	.....	.....	.....	.....	30,000	600
Carp	12,000	1,000	10,000	800	2,000	200	.....	.....	.....	.....	.....	.....	.....	.....
Catfish	4,405,000	143,000	442,000	14,000	3,617,000	118,000	339,000	10,000	.....	.....	1,000	100	6,200	200
Crappie	96,000	6,400	7,000	400	88,000	6,000	.....	.....	.....	.....	.....	.....	.....	.....
Crevallé	24,000	1,400	5,100	100	19,000	1,300	.....	.....	.....	.....	.....	.....	.....	.....
Croaker	309,000	28,000	259,000	18,000	108,000	9,000	.....	.....	2,200	200	500	(2)	100	(2)
Drum, fresh-water	845,000	15,000	118,000	3,600	311,000	5,600	415,000	6,100	.....	.....	1,100	(2)	.....	.....
Drum (salt-water), channel bass, or redfish	716,000	39,000	538,000	27,000	156,000	11,000	.....	.....	16,000	1,400	5,400	200	200	(2)
Flounders	71,000	6,000	16,000	1,100	38,000	3,500	.....	.....	16,000	1,400	100	(2)	.....	.....
Mullet	133,000	5,600	106,000	3,900	20,000	1,400	.....	.....	3,200	200	1,700	(2)	2,500	100
Paddlefish	132,000	5,000	99,000	3,700	21,000	800	2,000	100	.....	.....	10,000	400	.....	.....
Caviar	5,500	4,400	5,500	4,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pompano	1,100	100	1,100	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheepshead	249,000	18,000	185,000	12,000	61,000	5,900	.....	.....	2,200	200	600	(2)	200	(2)
Spanish mackerel	4,900	500	4,900	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Squeteague, or sea trout	1,103,000	82,000	840,000	56,000	232,000	23,000	.....	.....	27,000	2,200	3,900	200	.....	.....
Suckers	5,000	100	.....	.....	.....	.....	5,000	100	.....	.....	.....	.....	.....	.....
Yellowtail	64,000	3,200	64,000	3,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other	152,000	5,100	1,700	100	151,000	5,000	.....	.....	.....	.....	100	(2)	.....	.....
Frogs	38,000	4,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	38,000	4,500
Crabs, hard	244,000	7,800	80,000	3,300	60,000	1,600	.....	.....	1,500	100	.....	.....	102,000	2,900
Crabs, soft	78,000	21,000	39,000	12,000	.....	.....	.....	.....	.....	.....	.....	.....	40,000	9,000
Crawfish	88,000	3,600	.....	.....	1,800	100	.....	.....	.....	.....	.....	.....	86,000	3,500
Shrimp	8,581,000	213,000	8,346,000	194,000	.....	.....	.....	.....	.....	.....	.....	.....	236,000	19,000
Terrapin	41,000	21,000	12,000	9,500	.....	.....	.....	.....	.....	.....	.....	.....	29,000	12,000
Turtles	215,000	7,800	58,000	1,600	21,000	1,200	.....	.....	2,600	200	.....	.....	133,000	4,800
Clams, hard	100	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	(2)
Oysters, market, from public areas	[3]13,363,000	341,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3]13,363,000	341,000
Oysters, market, from private areas	[4]7,399,000	334,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4]7,399,000	334,000
Oysters, seed, from public areas	[5]4,091,000	82,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5]4,091,000	82,000
Oysters, seed, from private areas	[6]700,000	6,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6]700,000	6,200
Periwinkles	200	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	(2)
Hides, alligator	[7]110,000	11,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7]110,000	11,000
Skins, mink	[8]20,000	77,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8]20,000	77,000
Skins, muskrat	[9]40,000	16,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9]40,000	16,000
Skins, otter	[10]1,100	4,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[10]1,100	4,700

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 25,553,000 pounds, valued at $763,000; mink, muskrat, and otter traps, 60,000 pounds, valued at $98,000; shrimp nets, 233,000 pounds, valued at $19,000; dip nets, 167,000 pounds, valued at $15,000; firearms, 101,000 pounds, valued at $9,900; crawfish pots, 81,000 pounds, valued at $2,900; pound and trap nets, 36,000 pounds, valued at $800; cast nets, 4,200 pounds, valued at $200; and minor apparatus, 191,000 pounds, valued at $20,000.

[2] Less than $100.

[3] 1,909,000 bushels.

[4] 1,057,000 bushels.

[5] 584,000 bushels.

[6] 100,000 skins.

[7] 22,000 hides.

[8] 29,000 skins.

[9] 119,000 skins.

[10] 600 skins.

TABLE 2.—LOUISIANA—FISHERY PRODUCTS OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Lines.		Fyke and hoop nets.		Trammel nets.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	42,302,000	$1,448,000	12,114,000	$383,000	3,592,000	$141,000	296,000	$7,800	71,000	$5,800	14,000	$600	26,216,000	$909,000
Fish:														
Black bass	12,000	1,100	8,800	800	3,700	300								
Bluefish	2,900	100	2,800	100										
Bream, or sunfish	35,000	1,900	21,000	1,200	15,000	700								
Buffalo fish	1,293,000	28,000	1,022,000	23,000	254,000	4,400	17,000	300						
Catfish	2,937,000	89,000	362,000	11,000	2,343,000	71,000	232,000	6,700			1,000	100	200	(1)
Crevallé	24,000	1,400	5,100	100	19,000	1,300								
Croaker	309,000	28,000	259,000	18,000	108,000	9,000			2,200	200	500	(1)	100	(1)
Drum, fresh-water	265,000	6,900	116,000	3,600	102,000	2,500	47,000	800			1,100	(1)		
Drum (salt-water), channel bass, or redfish	716,000	39,000	538,000	27,000	156,000	11,000			16,000	1,400	5,400	200	200	(1)
Flounders	71,000	6,000	16,000	1,100	38,000	3,500			16,000	1,400	100	(1)		
Mullet	133,000	5,600	106,000	3,900	20,000	1,400			3,200	200	1,700	(1)	2,500	100
Paddlefish	48,000	1,400	27,000	500	21,000	800								
Pompano	1,100	100	1,100	100										
Sheepshead	249,000	18,000	185,000	12,000	61,000	5,900			3,200	200	600	(1)	200	(1)
Spanish mackerel	4,900	500	4,900	500										
Squeteague, or sea trout	1,103,000	82,000	840,000	56,000	232,000	23,000			27,000	2,200	3,900	(1)200		
Yellowtail	64,000	3,200	64,000	3,200										
All other	142,000	4,300	1,700	100	140,000	4,200					100	(1)		
Frogs	38,000	4,500											38,000	4,500
Crabs, hard	244,000	7,800	80,000	3,300	60,000	1,600			1,500	100			102,000	2,900
Crabs, soft	78,000	21,000	39,000	12,000									40,000	9,000
Crawfish	79,000	2,000			1,800	100							77,000	2,000
Shrimp	8,415,000	196,000	8,346,000	194,000									70,000	2,100
Terrapin	41,000	21,000	12,000	9,500									29,000	12,000
Turtles	211,000	7,700	58,000	1,000	17,000	1,100			2,600	200			133,000	4,800
Clams, hard	100	(1)											100	(1)
Oysters, market, from public areas	[2]13,363,000	341,000											[2]13,363,000	341,000
Oysters, market, from private areas	[3]7,399,000	334,000											[3]7,399,000	334,000
Oysters, seed, from public areas	[4]4,091,000	82,000											[4]4,091,000	82,000
Oysters, seed, from private areas	[5]700,000	6,200											[5]700,000	6,200
Periwinkles	200	(1)											200	(1)
Hides, alligator	[6]110,000	11,000											[6]110,000	11,000
Skins, mink	[7]20,000	77,000											[7]20,000	77,000
Skins, muskrat	[8]40,000	16,000											[8]40,000	16,000
Skins, otter	[9]1,100	4,700											[9]1,100	4,700

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 25,553,000 pounds, valued at $763,000; mink, muskrat, and otter traps, 60,000 pounds, valued at $98,000; dip nets, 167,000 pounds, valued at $15,000; firearms, 101,000 pounds, valued at $9,900; crawfish pots, 74,000 pounds, valued at $1,900; shrimp nets, 64,000 pounds, valued at $1,500; cast nets, 4,200 pounds, valued at $200; and minor apparatus, 191,000 pounds, valued at $20,000

[2] Less than $100.
[3] 1,909,000 bushels.
[4] 1,057,000 bushels.
[5] 584,000 bushels.
[6] 100,000 bushels.
[7] 22,000 hides.
[8] 39,000 skins.
[9] 119,000 skins.
[10] 600 skins.

TABLE 3.—LOUISIANA—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.[1]

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Lines.		Fyke and hoop nets.		Seines.		Gill nets.		All other apparatus.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,803,000	$121,000	1,738,000	$61,000	1,463,000	$24,000	382,000	$17,000	10,000	$400	211,000	$19,000
Fish:												
Black bass	28,000	2,200	26,000	2,200			1,000	100				
Bream, or sunfish	5,000	200	5,000	200								
Buffalo fish	1,333,000	22,000	118,000	1,500	981,000	15,000	204,000	5,200			30,000	600
Carp, German	12,000	1,000	2,000	200			10,000	800				
Catfish	1,467,000	54,000	1,274,000	47,000	106,000	3,500	80,000	2,800			6,000	200
Crappie	96,000	6,400	88,000	6,000			7,000	400				
Drum, fresh-water	580,000	8,400	209,000	3,000	368,000	5,300	2,000	(1)				
Paddlefish	84,000	3,600			2,000	100	72,000	3,200	10,000	400		
Caviar	5,500	4,400					5,500	4,400				
Suckers	5,000	100			5,000	100						
All other	10,000	800	10,000	800								
Crawfish	9,400	1,600									9,400	1,600
Shrimp	166,000	17,000									166,000	17,000
Turtles	4,000	100	4,000	100								

[1] All taken in the shore and boat fisheries.
[2] Includes apparatus, with catch, as follows: Shrimp nets, 169,000 pounds, valued at $17,000; crawfish pots, 6,200 pounds, valued at $1,000; and pound and trap nets, 36,000 pounds, valued at $800.
[3] Less than $100.

TABLE 4.—LOUISIANA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Dredges, tongs, etc.		Seines.		Gill nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	6,762,000	$174,000	6,215,000	$146,000	545,000	$28,000	1,300	$100
Fish:								
Catfish	48,000	1,300			48,000	1,300	(1)	(2)
Croaker	50,000	3,300			49,000	3,300	(1)	(2)
Drum, fresh-water	18,000	400			18,000	400		
Drum (salt-water), channel bass, or redfish	58,000	2,700			57,000	2,600	600	(2)
Flounders	2,800	200			2,800	200	(1)	(2)
Mullet	15,000	500			15,000	500	200	(2)
Sheepshead	32,000	2,000			32,000	2,000	100	(2)
Squeteague, or sea trout	92,000	5,000			92,000	5,000	400	(2)
All other	2,100	100			2,100	100	(1)	(2)
Crabs, hard	4,100	300			4,100	300		
Shrimp	205,000	8,800			205,000	8,800		
Terrapin	3,000	2,900			3,000	2,900		
Turtles	17,000	300			17,000	300		
Oysters, market, from public areas	[3]3,559,000	81,000	[3]3,559,000	81,000				
Oysters, market, from private areas	[4]1,578,000	56,000	[4]1,578,000	56,000				
Oysters, seed, from public areas	[5]1,011,000	8,100	[5]1,011,000	8,100				
Oysters, seed, from private areas	[6]68,000	600	[6]68,000	600				

[1] Less than 100 pounds. [2] Less than $100. [3] 508,000 bushels. [4] 225,000 bushels. [5] 144,000 bushels. [6] 9,700 bushels.

TABLE 5.—LOUISIANA—PRODUCTS OF SHORE AND BOAT FISHERIES OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Lines.		Fyke and hoop nets.		Trammel nets.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	35,541,000	$1,274,000	11,568,000	$355,000	3,592,000	$141,000	296,000	$7,800	71,000	$5,800	13,000	$500	20,001,000	$763,000
Fish:														
Black bass	12,000	1,100	8,800	800	3,700	300								
Bluefish	2,100	100	2,100	100										
Bream, or sunfish	35,000	1,900	21,000	1,200	15,000	700								
Buffalo fish	1,293,000	28,000	1,022,000	23,000	254,000	4,400	17,000	300						
Catfish	2,889,000	88,000	313,000	10,000	2,343,000	71,000	232,000	6,700			1,000	(2)	200	(2)
Crevallé	24,000	1,400	5,100	100	19,000	1,300								
Croaker	320,000	24,000	209,000	15,000	108,000	9,000			2,200	200	400	(2)	100	(2)
Drum, fresh-water	248,000	6,500	98,000	3,100	102,000	2,000	47,000	800			1,100	(2)		
Drum (salt-water), channel bass, or redfish	658,000	36,000	481,000	24,000	156,000	11,000			16,000	1,400	4,800	200	200	(2)
Flounders	68,000	5,800	13,000	900	38,000	3,500			16,000	1,400	100	(2)		
Mullet	118,000	5,100	91,000	3,400	20,000	1,400			3,200	200	1,500	(2)	2,500	100
Paddlefish	48,000	1,400	27,000	500	21,000	800								
Pompano	800	100	800	100										
Sheepshead	217,000	16,000	153,000	10,000	61,000	5,900			2,200	200	500	(2)	300	(2)
Spanish mackerel	4,000	400	4,000	400										
Squeteague, or sea trout	1,011,000	77,000	749,000	51,000	232,000	23,000			27,000	2,300	3,000	200		
Yellowtail	64,000	3,200	64,000	3,200										
All other	142,000	4,300	1,600	100	140,000	4,200					(2)	(2)		
Frogs	38,000	4,500											38,000	4,500
Crabs, hard	240,000	7,500	76,000	3,000	60,000	1,600			1,500	100			102,000	2,900
Crabs, soft	78,000	21,000	39,000	12,000									40,000	9,000
Crawfish	79,000	2,000			1,800	100							77,000	2,000
Shrimp	8,210,000	187,000	8,141,000	185,000									70,000	2,100
Terrapin	38,000	18,000	8,900	6,700									29,000	12,000
Turtles	194,000	7,400	41,000	1,200	17,000	1,100			2,600	200			133,000	4,800
Clams, hard	100	(2)											100	(2)
Oysters, market, from public areas	[4]9,805,000	260,000											[4]9,805,000	260,000
Oysters, market, from private areas	[5]5,821,000	278,000											[5]5,821,000	278,000
Oysters, seed, from public areas	[6]3,080,000	74,000											[6]3,080,000	74,000
Oysters, seed, from private areas	[7]632,000	5,600											[7]632,000	5,600
Periwinkles	200	(2)											200	(2)
Hides, alligator	[8]110,000	11,000											[8]110,000	11,000
Skins, mink	[9]20,000	77,000											[9]20,000	77,000
Skins, muskrat	[10]40,000	16,000											[10]40,000	16,000
Skins, otter	[11]1,100	4,700											[11]1,100	4,700

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 19,338,000 pounds, valued at $617,000; mink, muskrat, and otter traps, 60,000 pounds, valued at $98,000; dip nets, 167,000 pounds, valued at $14,000; firearms, 101,000 pounds, valued at $9,900; crawfish pots, 74,000 pounds, valued at $1,900; shrimp nets, 64,000 pounds, valued at $1,500; cast nets, 4,200 pounds, valued at $200; and minor apparatus, 191,000 pounds, valued at $20,000.

[2] Less than $100.
[3] Less than 100 pounds.
[4] 1,401,000 bushels.
[5] 832,000 bushels.
[6] 440,000 bushels.
[7] 90,000 bushels.
[8] 22,000 hides.
[9] 39,000 skins.
[10] 119,000 skins.
[11] 600 skins.

MAINE.

The fishing industry of Maine is confined to sea and shore fisheries along the Atlantic coast; but because of the peculiarly ragged and uneven coast line and the many outlying islands, the state possesses special advantages among the states in which commercial fishing is carried on. In the total value of fishery products Maine ranked second among the New England states in 1908 and seventh among all the states; in the value of lobsters, soft clams, and herring caught it ranked first, and in the value of cod, haddock, and hake second.

The following statement presents a summary of the most important statistics for the fisheries of Maine in 1908:

Number of persons employed	6,861
Capital:	
Vessels and boats, including outfit	$1,669,000
Apparatus of capture	576,000
Shore and accessory property and cash	166,000
Value of products	3,257,000

Comparison with previous canvasses.—The principal statistics of the Maine fisheries for 1908, in comparison with the returns for certain earlier years for which canvasses were made, are given in the following tabular statement:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	6,857	$2,245,000	$1,669,000	$576,000	173,843,000	$3,257,000
1905	7,442	1,606,000	1,179,000	428,000	134,724,000	2,386,000
1902	9,207	1,732,000	1,255,000	476,000	242,390,000	2,919,000
1898	8,717	1,434,000	1,006,000	429,000	123,465,000	2,655,000
1889	8,885	1,475,000	1,051,000	424,000	129,560,000	2,111,000

The total investment in equipment—vessels and their outfits, boats, and apparatus of capture—increased by more than 50 per cent from 1889 to 1908, being $1,475,000 at the earlier date and $2,245,000 at the latter. An increase in each of the items helped to make up the increase in the total, the value of the apparatus of capture increasing from $424,000 to $576,000 and the value of vessels and boats from $1,051,000 to $1,669,000. The increase in these items, however, was not uninterrupted, for the value of apparatus of capture fell in 1905 below the values reported for 1898 and 1902, and the value of vessels and boats in 1898 was less than in 1889, and in 1905 less than in 1902. It may be noted that the investment in 1880 was $1,814,000, which is larger than that reported at any subsequent canvass prior to 1908.

In the report for 1880 the values of the separate products as sold by the fishermen are not given. The following tabular statement, however, presents statistics showing the value of the leading products for the years 1908, 1902, 1898, and 1889, arranged in the order of their value in 1908:

SPECIES.	VALUE OF PRODUCTS.			
	1908	1902	1898	1889
Total	$3,257,000	$2,919,000	$2,655,000	$2,111,000
Lobsters	1,209,000	1,066,000	993,000	574,000
Cod	439,000	377,000	314,000	437,000
Herring	420,000	510,000	263,000	240,000
Clams	251,000	194,000	323,000	201,000
Haddock	245,000	125,000	122,000	103,000
Hake	168,000	145,000	134,000	89,000
Scallops	95,000	14,000	15,000	19,000
Pollack	75,000	49,000	19,000	32,000
Smelt	65,000	103,000	139,000	75,000
Swordfish	44,000	45,000	44,000	27,000
Shad	42,000	29,000	20,000	19,000
Cusk	32,000	34,000	14,000	6,200
Mackerel	31,000	101,000	98,000	88,000
Eels	25,000	13,000	13,000	8,700
Alewives	18,000	22,000	25,000	30,000
Halibut	15,000	14,000	22,000	36,000
All other	24,000	78,000	85,000	127,000

In each of the years for which statistics are shown, lobsters, cod, herring, clams, haddock, and hake constituted the six principal fishery products of the state, except that in 1898 smelt ranked fifth and haddock seventh. These six species contributed 78 per cent of the aggregate value of the fishery product of the state in 1889, 81 per cent in 1898, 83 per cent in 1902, and 86 per cent in 1908.

The value of the lobster product increased about 73 per cent from 1889 to 1898 and 28 per cent from 1898 to 1908. The cod product decreased in value about 28 per cent from 1889 to 1898, but during the following ten years recovered this loss, so that in 1908 the value was about the same as in 1889. The value of the herring catch in 1908 showed a decrease of about 18 per cent, as compared with 1902, but an increase of about 60 per cent, as compared with 1898 or 1889. The value of the clam product in 1908 was 29 per cent greater than in 1902 and 25 per cent greater than in 1889, but was less than in 1898. The haddock catch fluctuated in value throughout the period covered by the statistics, although in 1908 the value was more than twice as great as in 1889 and nearly twice as great as in 1902. The value of hake showed an increase at each canvass.

Of the less important varieties, shad alone shows an increase in value at each successive canvass. Alewives declined steadily in value, while scallops and halibut decreased in value until 1902, and then gained. Pollack and eels show increases from 1902 to 1908; smelt, swordfish, cusk, and mackerel show declines. The most marked decline is in the value of the mackerel catch, which decreased 69 per cent between 1902 and 1908.

Persons employed.—The total number of persons employed in the fisheries of the state in 1908 was 6,861, distributed as follows:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	6,861	[1] 5,004	3	1,854	$619,000	$1,200	[2] $618,000
Vessel fisheries	1,378	391	1	986	365,000	500	365,000
Transporting vessels	396	64	.....	332	150,000	.....	150,000
Shore and boat fisheries	5,083	4,549	2	532	103,000	700	102,000
Shoresmen	4	.....	.....	4	1,100	.....	1,100

[1] Exclusive of 178 proprietors not fishing.
[2] Includes provisions furnished to the value of $28,000.

Nearly three-fourths of the persons employed in fishing industries in the state were engaged in the shore and boat fisheries, and nearly nine-tenths of those engaged in the shore and boat fisheries were proprietors and independent fishermen. Of the total number engaged in the shore and boat fisheries, 534, or 11 per cent, were employed by others. The following tabular statement shows the number of persons employed, exclusive of shoresmen, in the fisheries of Maine during the years named:

CLASS.	PERSONS EMPLOYED, EXCLUSIVE OF SHORESMEN.					
	1908	1905	1902	1898	1889	1880
Total	6,857	7,442	9,207	8,717	8,885	8,110
Vessel fisheries	1,378	1,126	2,017	1,734	2,515	3,630
Transporting vessels	396	330	310	213	165	.....
Shore and boat fisheries	5,083	5,986	6,880	6,770	6,205	4,480

There has been a general, though to some extent interrupted, decrease since 1880 in the number of persons employed. The total number employed was smallest in 1908, and the number employed in shore and boat fisheries was smaller in that year than at any other time since 1880. Both for the fisheries of the state as a whole and for the shore and boat fisheries the largest number of persons employed was reported in 1902. For vessel fisheries the largest number of employees was reported in 1880 and the smallest number in 1905, although the number in 1902 was larger than that at any canvass since 1889. Contrary to the general tendency toward a decrease in the number of persons employed apparent in each of the other branches of the industry, the number employed on transporting vessels shows a small increase from year to year.

Equipment and other capital.—The following table gives statistics of the equipment and of other capital employed:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$2,411,000	.....	.....
Vessels, including outfit	1,007,000	575	6,395
Fishing	641,000	399	4,092
Steam and motor	356,000	270	1,631
Vessels	280,000	.....	.....
Outfit	77,000	.....	.....
Sail	285,000	129	2,461
Vessels	219,000	.....	.....
Outfit	66,000	.....	.....
Transporting	366,000	176	2,273
Steam and motor	329,000	151	1,676
Vessels	287,000	.....	.....
Outfit	42,000	.....	.....
Sail	36,000	25	597
Vessels	33,000	.....	.....
Outfit	3,000	.....	.....
Boats	662,000	6,969	.....
Steam and motor	559,000	2,272	.....
Sail	34,000	250	.....
Row	64,000	4,325	.....
Other	5,000	122	.....
Apparatus of capture	576,000	.....	.....
Vessel fisheries	80,000	.....	.....
Shore and boat fisheries	496,000	.....	.....
Shore and accessory property	162,000	.....	.....
Cash	3,000	.....	.....

In 1908 the total investment in vessels, boats, and apparatus of capture was $2,245,000. Of this amount, $1,007,000 represented the investment in vessels and their outfits and $662,000 the investment in boats.

A prominent feature of the Maine fisheries is the large number of small craft. The value of the boats employed in 1908 represented 27 per cent of all capital invested, the value of steam and motor boats alone forming 23 per cent. The investment in power craft of all kinds, including vessels and boats with their outfits, aggregated $1,245,000, or 52 per cent of all capital invested.

The statistics for boats show a material increase in the number and a large increase in the value, as compared with the returns for earlier years made by the Bureau of Fisheries. The increase in value seems to be due to the increasing use of motor boats of small tonnage. For 1905 the report of the Bureau of Fisheries showed only 798 gasoline boats (including one steamer), with a value of $233,000, while in 1908 the steam and motor boats numbered 2,272, with a total value of $559,000. The capital invested in craft and apparatus of capture together was nearly equal for the two classes of fisheries, aggregating $1,087,000 for the vessel fisheries and $1,158,000 for the shore and boat fisheries.

Lobster and eel pots, which constituted the principal apparatus used in the lobster industry, far exceeded in number any other kind of apparatus used in the fishing industries of Maine. Pound and trap nets were used principally in the shore and boat fisheries, no pound nets and only 11 trap nets being used in the vessel fisheries. Of the 511 seines used, 412 were reported for the shore and boat fisheries.

The following tabular statement shows the number of various kinds of apparatus reported. No returns were made of the number of lines, dredges, tongs, etc.

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Used in—	
		Vessel fisheries.	Shore and boat fisheries.
Bag nets	156	3	153
Cunner nets	11		11
Dip nets	657	2	655
Firearms	6		6
Fyke and hoop nets	4		4
Gill nets	1,980	711	1,269
Harpoons, spears, etc	555	475	80
Lobster and eel pots	176,365	15,594	160,771
Pound and trap nets	655	11	644
Seines	511	99	412

Products, by species.—The fisheries of the state of Maine yielded, in 1908, 173,843,000 pounds of products, with a value of $3,257,000. Along the coast sunken ledges and rocks, the habitat of various marine animals that serve as food for many of the most important food fishes, are the resort of the cod, haddock, hake and other species known as "ground fish." The rocky character of the coast makes it especially suitable for the growth of lobsters, and the breeding of them is carried on in practically every locality along the coast and has become by far the most important branch of the fishing industry of the state. In 1908 the lobster product contributed 39 per cent of the total value of all fishery products of the state. In point of value the cod product ranked next, but this furnished only 13 per cent of the value of all fishery products, or little more than one-third as much as the lobster product. Herring ranked third in value, the large number of these fish caught being utilized mainly in sardine canneries and smokehouses. The soft-clam industry is also important and its products ranked fourth in value among those of the fisheries of the state; but oysters thus far have not been successfully propagated in the waters of Maine. The other important classes of product, in order of value reported, were haddock, hake, scallop, pollack, and smelt. The products distributed by species and by apparatus of capture are shown in Table 1, on page 143.

Products, by class of fisheries.—The distribution of the value of products between the vessel fisheries and the shore and boat fisheries is given in the next tabular statement.

The products in detail, by species and apparatus of capture, are presented for the vessel fisheries in Table 3, on page 145, and for the shore and boat fisheries in Table 2, on page 144.

The vessel fisheries, while of considerable importance, are much less extensive than the shore and boat fisheries. In 1908 the catch reported for the former was 52,724,000 pounds, valued at $898,000, or about 30 per cent of the total quantity and 28 per cent of the total value for the state. The shore and boat fisheries reported a catch of 121,119,000 pounds, valued at $2,359,000, or about 70 per cent of the total quantity and 72 per cent of the total value for the state.

In the vessel fisheries the combined catch of cod, herring, haddock, hake, swordfish, and lobsters was valued at $742,000, or 83 per cent of the total value of the products of those fisheries. In the shore and boat fisheries the value of the lobster catch represented 48 per cent of the total value. The value of the fish proper constituted 80 per cent of the total value in the case of vessel fisheries and 39 per cent in the case of shore and boat fisheries.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,257,000	$898,000	$2,359,000
Fish	1,631,000	717,000	914,000
Cod	439,000	238,000	201,000
Herring	420,000	95,000	325,000
Haddock	243,000	133,000	111,000
Hake	168,000	100,000	68,000
Pollack	75,000	36,000	39,000
Smelt	65,000	2,400	63,000
Swordfish	44,000	43,000	600
Shad	42,000	10,000	32,000
Cusk	32,000	24,000	8,000
Mackerel	31,000	19,000	12,000
Eels	25,000	3,700	21,000
Alewives	18,000	1,500	16,000
Halibut	15,000	11,000	3,700
All other	14,000	700	13,000
Lobster	1,269,000	134,000	1,136,000
Clams	251,000	4,300	247,000
Scallops	95,000	38,000	58,000
All other	9,600	5,100	4,500

Products, by apparatus of capture.—The following tabular statement shows the distribution of the value of the fishery products taken by each kind of apparatus for the state as a whole and for each class of fisheries:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,257,000	$898,000	$2,359,000
Lobster and eel pots	1,290,000	137,000	1,153,000
Lines	953,000	529,000	424,000
Pound nets, trap nets, and weirs	357,000	11,000	346,000
Dredges, tongs, rakes, hoes, etc	347,000	42,000	305,000
Seines	171,000	108,000	63,000
Gill nets, drift nets, etc	56,000	27,000	29,000
Harpoons, spears, etc	48,000	43,000	5,300
Bag nets	22,000	600	21,000
Dip nets	12,000	300	12,000
All other	2,200	400	1,800

In consequence of the fact that the lobster is the most important product of the fisheries of Maine, the products caught by means of eel and lobster pots show the largest value. Lines ranked second in value of the catch. They are used very generally along the coast of Maine, and nearly all the important species of fish, except herring, shad, and such large fish as sturgeon and swordfish, are caught by this apparatus.

Pound nets, trap nets, and weirs followed lines in importance as apparatus of capture. All of these

were used principally in the shore and boat fisheries, only about 3 per cent of the value of the product taken by them in 1908 coming from vessel fisheries. Herring contributed more than four-fifths of the value of the catch by these forms of apparatus.

Dredges, tongs, rakes, hoes, and similar apparatus ranked fourth in importance as measured by the value of the product taken; although used to some extent in vessel fisheries, they were employed chiefly in shore and boat fisheries for taking clams. All of the scallops taken in the state, valued at $95,000, and a few oysters were also secured by apparatus of this kind.

Seines were used extensively in the vessel fisheries, which reported nearly two-thirds of the total value of the catch made by this apparatus. The principal species caught by seines were herring, pollack, smelt, mackerel, and shad.

Gill nets and drift nets were used to nearly the same extent in vessel fisheries and shore and boat fisheries. The total catch taken by these nets weighed 1,404,000 pounds and was valued at $56,000. It included mackerel, herring, shad, cod, and smelt, with a combined value of $52,000, and six other species aggregating in value $3,600.

The principal species taken with harpoons and spears was the swordfish. By these implements were also captured seals, from which came skins and oil; porpoises, taken for their oil; and eels.

Lobster.—Measured by value of products lobster were the most important fishery product of the state in 1908, and, although the weight of the total catch was less than in 1902, by 2,234,000 pounds, or 18 per cent, its value was greater by $203,000, or 16 per cent. It is interesting to note that the total catch in 1880 was 14,234,000 pounds—a much larger quantity than in 1908—but its value to the fishermen was only $269,000. Lobsters are taken principally in the shore and boat fisheries. In 1908 this class of fisheries reported 8,898,000 pounds, valued at $1,136,000, whereas only 1,031,000 pounds, with a value of $134,000, were taken in the vessel fisheries.

Cod.—The catch of cod ranked next to the lobster product in value and was the largest in quantity reported for any of the so-called "ground fish" (cod, haddock, hake, halibut, pollack, and cusk). In all, 20,013,000 pounds of cod were caught, with a value of $439,000, or 13 per cent of the value of all fishery products of the state. The catch in 1908 represents an increase of about 15 per cent in weight and nearly 17 per cent in value over the catch in 1902, which amounted to 17,390,000 pounds, valued at $377,000. The product of 1908 was almost equally divided between the vessel and the shore and boat fisheries, the quantity taken in the former being 9,951,000 pounds and that taken in the latter 10,063,000 pounds, or only 1 per cent more. Yet the value of the lesser catch of the vessel fisheries, $238,000, was 15 per cent greater than the value of the catch from the shore and boat fisheries, which was $201,000. It is of interest to note in this connection that in 1902 the Bureau of Fisheries reported a large difference in the amount of cod taken in shore and boat fisheries as compared with vessel fisheries, the product of the latter being 12,621,000 pounds, valued at $286,000, and that of the former only 4,769,000 pounds, valued at $91,000. Nearly 87 per cent of the catch was sold fresh and the remainder was salted. Practically the entire product was taken by hand and trawl lines.

Herring.—Herring fishing is important in the state of Maine, and this fish in 1908 ranked first among the fishery products of the state in quantity and third in value. The value of the product represented 13 per cent of the value of the aggregate product for the state. Since 1902 there has been a decrease of 69,419,000 pounds, or nearly 43 per cent, in the total catch, and of $90,000, or nearly 18 per cent, in its value. The herring fishery is principally a shore fishery; in 1908, 75,638,000 pounds of herring were taken in the shore and boat fisheries, with a value of $325,000, or over 77 per cent of the total value of the herring taken in Maine. Ninety-six per cent of the catch was sold fresh and the remainder salted or smoked. The greater part of the total quantity—66,826,000 pounds, valued at $287,000, or over 68 per cent of the total value of herring—was taken in pound nets, trap nets, and weirs. About 27 per cent of the value represents the value of the catch made with seines. Herring, as already stated, are utilized mainly in sardine canneries and smokehouses, but they are also to some extent sold salted and are used for bait in trawl and hand-line fishing.

Clams.—For the clam product a considerable increase in value is shown in the last few years, and in 1908 it stood in this respect next to herring. In this report both the fresh clams sold for food and for canning and the salted clams sold for bait are included under the term "soft clams." The total yield of clams in 1908 was 5,061,000 pounds, valued at $251,000; in 1905, 3,729,000 pounds, valued at $135,000; and in 1902, 5,547,000 pounds, valued at $194,000. There was a decline in the product from 1902 to 1905, amounting to 33 per cent in quantity and nearly 31 per cent in value, but an increase from 1905 to 1908 made the total quantity in 1908 less than 9 per cent smaller than in 1902 and the total value 29 per cent more. Clams ranked third in value among the products of the shore and boat fisheries, less than 2 per cent of the clam product being taken in the vessel fisheries.

Haddock.—In value of the catch the haddock ranked next to the cod among the "ground fish," and fifth among all species of the state. The catch was slightly larger in the vessel fisheries than in the shore and boat fisheries and proportionately more valuable. It was practically all sold fresh. Since 1902 there has been

an increase of 50 per cent in the quantity of the catch of this fish together with an increase of nearly 95 per cent in the value. Lines were the principal kind of apparatus used in the capture of haddock.

Hake.—The hake was an important species of "ground fish" taken in Maine, and in quantity reported ranked next to the cod in 1908 and third among all the species taken in the state. The most prolific hake fishing grounds in the United States are off the coast of Maine, and more than 50 per cent of the hake caught in the United States comes from there. The fishermen usually dress these fish before selling them. Formerly the sounds were very valuable for the manufacture of glue, and although their value for this purpose has decreased, the custom of dressing the hake, begun before the Civil War, has continued. The value of the hake product in 1908 formed 5 per cent of the value of all fishery products of Maine. Compared with the 1902 product that of 1908 represented a decrease of 7 per cent in quantity but an increase of nearly 16 per cent in value. The hake was taken in the vessel fisheries to a greater extent than in the shore and boat fisheries, the total quantity caught by vessels in 1908 constituting about 60 per cent of all hake caught in the state. Lines were the leading apparatus of capture employed.

Scallops.—Although scallops have been taken in the other New England states for a number of years, the industry is comparatively new in Maine. The water in which they are taken is of great depth, and for this reason scallop fishing was not much carried on in this state. During the past few years, however, the advent of motor boats for dragging and of the motor engines and drum for hoisting the dredge has overcome the difficulties due to the deep water and led to a marked increase in product. In 1908 scallops stood seventh in value among the species taken in the state. Exclusive of 18,000 pounds of scallop rims, with a value of $100, the total product in 1908 was 1,239,000 pounds, with a value of $95,000. In 1905 the total quantity was 416,000 pounds, valued at $52,000, and in 1902, 115,000 pounds, valued at $14,000. The product of the shore and boat fisheries amounted to 766,000 pounds, valued at $58,000. The entire catch was made by dredges, tongs, rakes, hoes, and similar apparatus.

Pollack.—The value of the catch of pollack increased from $49,000 in 1902 to $75,000 in 1908, or more than 53 per cent. The value of the product in 1908 amounted to four times the value of that of 1898. This fish is reported in nearly equal quantities by the vessel fisheries and the shore and boat fisheries, and is taken principally by means of lines and seines.

Smelt.—Although the catch of smelt represented but 2 per cent of the value of the fishery products of the state in 1908, smelt fishing is regarded as important because it furnishes employment to a large number of men in the fall and winter months. In the fall principally seines are used in taking the catch, but in the winter the fish are taken through the ice with lines and the fishing grounds are usually some distance up the rivers. Since 1902 there has been a decrease of 42 per cent in the quantity of the catch and 37 per cent in its value. There has been a slight increase since 1905, however, in both quantity and value. Over 96 per cent of the value of the catch was reported by the shore and boat fisheries. Other apparatus besides seines and lines used in capturing this fish are bag nets, pound nets, trap nets, weirs, and to a less extent, dip nets, gill nets, and drift nets. The figures given for smelt in the columns headed "All other apparatus" in Table 1, on page 143, represent the catch in bag nets.

Mackerel.—The mackerel was formerly very abundant in the waters of Maine, but the catch for 1908 was only 380,000 pounds. The value of the catch was $31,000, a decrease of 69 per cent since 1902, when it was $101,000.

Salmon.—Salmon fishing also has been decreasing in importance yearly, the catch in 1908 being 72 per cent less in value than that in 1902. The salmon is a migratory fish and formerly came to the Maine waters to spawn, but it is asserted that, owing to the pollution of the waters, it is now impossible for the fish to reach the spawning beds in the fresh water.

TABLE 1.—MAINE—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound nets, trap nets, and weirs.		Seines.		Gill nets, drift nets, etc.		Dip nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	173,843,000	$3,257,000	55,287,000	$953,000	69,621,000	$357,000	27,877,000	$171,000	1,404,000	$56,000	2,044,000	$12,000	17,610,000	$1,709,000
Fish:														
Alewives	2,085,000	18,000	.....	.....	1,290,000	11,000	157,000	2,800	.....	.....	638,000	4,200	.....	.....
Butterfish	6,400	300	.....	.....	5,900	300	.....	.....	500	(2)	.....	.....	.....	.....
Catfish	13,000	100	13,000	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cod	20,013,600	439,000	19,631,000	430,000	103,000	2,200	.....	.....	278,000	6,900	.....	.....	.....	.....
Cunner	93,000	1,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	93,000	1,600
Cusk	2,078,000	32,000	2,078,000	32,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eels	498,000	25,000	1,200	100	44,000	2,400	.....	.....	.....	.....	9,600	600	443,000	22,000
Flounders	31,000	600	9,600	100	.....	.....	4,000	100	.....	.....	.....	.....	18,000	400
Haddock	10,513,000	243,000	10,454,000	242,000	23,000	500	.....	.....	36,000	100	.....	.....	.....	.....
Hake	17,398,000	168,000	17,387,000	168,000	11,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Halibut	200,000	15,000	200,000	15,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herring	92,985,000	420,000	.....	.....	66,826,000	287,000	24,019,000	114,000	723,000	14,000	1,367,000	4,700	50,000	200
Mackerel	380,000	31,000	.....	.....	63,000	4,800	125,000	10,000	193,000	16,000	.....	.....	.....	.....
Pickerel	2,700	300	2,700	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pollack	8,941,000	75,000	5,229,000	51,000	708,000	5,600	2,992,000	19,000	11,000	100	.....	.....	1,000	(2)
Salmon	19,000	3,700	2,200	200	6,000	1,500	.....	.....	9,500	1,700	700	100	600	200
Shad	770,000	42,000	.....	.....	315,000	25,000	340,000	7,000	114,000	9,900	.....	.....	.....	.....
Silver hake	25,000	100	.....	.....	25,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Smelt	654,000	65,000	89,000	9,700	113,000	14,000	222,000	17,000	34,000	4,700	29,000	2,300	167,000	17,000
Striped bass	2,100	400	.....	.....	1,400	200	.....	.....	700	200	.....	.....	.....	.....
Sturgeon	8,200	1,000	.....	.....	4,500	500	.....	.....	3,700	500	.....	.....	.....	.....
Caviar	100	100	.....	.....	(2)	(2)	.....	.....	100	100	.....	.....	.....	.....
Suckers	58,000	900	.....	.....	56,000	900	.....	.....	.....	.....	.....	.....	1,500	(2)
Swordfish	513,000	44,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	513,000	44,000
Tomcod	117,000	4,600	19,000	500	20,000	200	18,000	200	.....	.....	.....	.....	59,000	3,600
All other	14,000	300	14,000	300	200	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Livers	52,000	500	52,000	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sounds	22,000	1,000	23,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lobster	9,929,000	1,209,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,929,000	1,209,000
Turtles	1,400	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,400	600
Clams, soft	[4] 5,061,000	251,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 5,061,000	251,000
Oysters, market, from public areas	[5] 1,000	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,000	200
Scallops and scallop rims	[6] 1,257,000	96,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 1,257,000	96,000
Squid	6,100	(2)	.....	.....	6,100	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Oil, fish	[7] 83,000	3,600	83,000	3,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oil, porpoise	[8] 8,000	800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 8,000	800
Oil, seal	[8] 4,000	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 4,000	400
Skins, seal	[10] 1,600	2,200	.....	.....	(2)	(2)	.....	.....	.....	.....	.....	.....	[10] 1,600	2,200

[1] Includes apparatus, with catch, as follows: Lobster and eel pots, 10,361,000 pounds, valued at $1,290,000; dredges, tongs, etc., 6,310,000 pounds, valued at $347,000; harpoons, spears, etc., 539,000 pounds, valued at $48,000; bag nets, 286,000 pounds, valued at $22,000; cunner nets and traps, 93,000 pounds, valued at $1,600; flounder traps, 10,000 pounds, valued at $200; and minor apparatus, 11,000 pounds, valued at $400.

[2] Less than $100.

[3] Less than 100 pounds.

[4] 506,000 bushels.

[5] 200 bushels.

[6] 155,000 gallons.

[7] 11,000 gallons.

[8] 1,100 gallons.

[9] 500 gallons.

[10] 500 skins.

TABLE 2.—MAINE—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound nets, trap nets, and weirs.		Seines.		Gill nets, drift nets, etc.		Dip nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	121,119,000	$2,359,000	25,461,000	$424,000	68,200,000	$346,000	9,562,000	$63,000	538,000	$29,000	1,956,000	$12,000	15,403,000	$1,486,000
Fish:														
Alewives, fresh	1,751,000	11,000	.....	.....	1,052,000	6,600	127,000	1,300	.....	.....	572,000	2,900	.....	.....
Alewives, salted	112,000	2,000	.....	.....	64,000	1,500	.....	.....	.....	.....	48,000	600	.....	.....
Alewives, smoked	192,000	3,400	.....	.....	174,000	2,700	.....	.....	.....	.....	18,000	700	.....	.....
Butterfish	5,900	300	.....	.....	5,400	300	.....	.....	500	(2)	.....	.....	.....	.....
Catfish	5,800	100	5,800	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cod, fresh	9,896,000	196,000	9,588,000	188,000	103,000	2,200	.....	.....	204,000	5,200	.....	.....	.....	.....
Cod, salted	167,000	5,500	167,000	5,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cunner	90,000	1,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	90,000	1,600
Cusk, fresh	520,000	7,900	520,000	7,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cusk, salted	4,100	100	4,100	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eels	414,000	21,000	1,200	100	44,000	2,400	.....	.....	.....	.....	9,600	600	359,000	18,000
Flounders	31,000	600	9,600	100	.....	.....	4,000	100	.....	.....	.....	.....	18,000	400
Haddock, fresh	4,733,000	110,000	4,694,000	108,000	23,000	500	.....	.....	36,000	1,000	.....	.....	.....	.....
Haddock, salted	48,000	1,000	48,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hake, fresh	6,947,000	64,000	6,837,000	64,000	11,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Hake, salted	245,000	3,500	245,000	3,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Halibut	47,000	3,700	47,000	3,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herring, fresh	74,552,000	316,000	.....	.....	55,217,000	276,000	7,944,000	34,000	63,000	400	1,278,000	4,300	50,000	200
Herring, salted	851,000	6,200	.....	.....	40,000	300	811,000	5,900	.....	.....	.....	.....	.....	.....
Herring, smoked	234,000	2,900	.....	.....	234,000	2,900	.....	.....	.....	.....	.....	.....	.....	.....
Mackerel, fresh	155,000	12,000	.....	.....	61,000	4,700	33,000	2,600	61,000	5,000	.....	.....	.....	.....
Mackerel, salted	2,200	200	.....	.....	.....	.....	2,200	200	.....	.....	.....	.....	.....	.....
Pickerel	2,700	300	2,700	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pollack, fresh	3,770,000	33,000	2,873,000	27,000	670,000	4,700	215,000	1,400	11,000	100	.....	.....	1,000	(2)
Pollack, salted	448,000	6,000	216,000	3,300	33,000	900	200,000	1,800	.....	.....	.....	.....	.....	.....
Salmon	19,000	3,700	2,200	200	6,000	1,500	.....	.....	9,500	1,700	700	100	600	200
Shad, fresh	370,000	32,000	.....	.....	246,000	22,000	10,000	200	114,000	9,900	.....	.....	.....	.....
Silver hake	17,000	100	.....	.....	17,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Smelt	624,000	63,000	89,000	9,700	113,000	14,000	198,000	15,000	34,000	4,700	29,000	2,300	162,000	17,000
Striped bass	2,100	400	.....	.....	1,400	200	.....	.....	700	200	.....	.....	.....	.....
Sturgeon	8,200	1,000	.....	.....	4,500	500	.....	.....	3,700	500	.....	.....	.....	.....
Caviar	100	100	.....	.....	(2)	(2)	.....	.....	100	100	.....	.....	.....	.....
Suckers	57,000	900	.....	.....	55,000	900	.....	.....	.....	.....	.....	.....	1,500	(2)
Swordfish	8,000	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,000	600
Tomcod	100,000	4,100	8,000	200	20,000	200	18,000	200	.....	.....	.....	.....	53,000	3,500
All other	800	100	600	(2)	200	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Livers	800	(2)	800	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sounds, fresh	1,100	100	1,100	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sounds, salted	2,800	100	2,800	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lobster	8,898,000	1,136,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,898,000	1,136,000
Turtles	1,400	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,400	600
Clams, soft	[4] 4,961,000	247,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 4,961,000	247,000
Oysters, market, from public areas	[5] 1,000	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,000	200
Scallops and scallop rims	[6] 784,000	58,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 784,000	58,000
Squid	5,300	(2)	.....	.....	5,300	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Oil, porpoise	[7] 8,000	800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 8,000	800
Oil, seal	[8] 4,000	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 4,000	400
Skins, seal	[9] 1,600	2,200	.....	.....	(2)	(2)	.....	.....	.....	.....	.....	.....	[9] 1,600	2,200

[1] Includes apparatus, with catch, as follows: Lobster and eel pots, 9,246,000 pounds, valued at $1,153,000; dredges, tongs, etc., 5,746,000 pounds, valued at $305,000; bag nets, 275,000 pounds, valued at $21,000; harpoons, spears, etc., 35,000 pounds, valued at $5,300; flounder traps, 10,000 pounds, valued at $200; and minor apparatus, 91,000 pounds, valued at $1,600.

[2] Less than $100.

[3] Less than 100 pounds.

[4] 496,000 bushels.

[5] 200 bushels.

[6] 98,000 gallons.

[7] 1,100 gallons.

[8] 500 gallons.

[9] 500 skins.

TABLE 3.—MAINE—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Seines.		Gill nets, drift nets, etc.		Pound nets, trap nets, and weirs.		All other apparatus.[1]			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.		
Total	52,724,000	$898,000	29,826,000	$529,000	18,315,000	$108,000	866,000	$27,000	1,422,000	$11,000	2,295,000	$223,000		
Fish:														
Alewives, fresh	30,000	1,500	.....	.....	30,000	1,500	.....	.....	.....	.....	.....	.....		
Catfish	7,000	100	7,000	100	.....	.....	.....	.....	.....	.....	.....	.....		
Cod, fresh	7,489,000	155,000	7,415,000	153,000	.....	.....	74,000	1,700	.....	.....	.....	.....		
Cod, salted	2,461,000	83,000	2,461,000	83,000	.....	.....	.....	.....	.....	.....	.....	.....		
Cusk, fresh	1,519,000	23,000	1,519,000	23,000	.....	.....	.....	.....	.....	.....	.....	.....		
Cusk, salted	35,000	800	35,000	800	.....	.....	.....	.....	.....	.....	.....	.....		
Eels	84,000	3,700	.....	.....	.....	.....	.....	.....	.....	.....	84,000	3,700		
Haddock, fresh	5,691,000	132,000	5,691,000	132,000	.....	.....	.....	.....	.....	.....	.....	.....		
Haddock, salted	21,000	300	21,000	300	.....	.....	.....	.....	.....	.....	.....	.....		
Hake, fresh	10,156,000	99,000	10,156,000	99,000	.....	.....	.....	.....	.....	.....	.....	.....		
Hake, salted	50,000	700	50,000	700	.....	.....	.....	.....	.....	.....	.....	.....		
Halibut	153,000	11,000	153,000	11,000	.....	.....	.....	.....	.....	.....	.....	.....		
Herring, fresh	14,635,000	73,000	.....	.....	13,040,000	59,000	212,000	6,400	1,335,000	7,700	48,000	200		
Herring, salted	2,711,000	22,000	.....	.....	2,224,000	15,000	448,000	7,400	.....	.....	40,000	200		
Mackerel, fresh	224,000	19,000	.....	.....	90,000	7,200	132,000	11,000	1,600	100	.....	.....		
Pollack, fresh	4,707,000	36,000	2,125,000	20,000	2,577,000	16,000	.....	.....	5,600	100	.....	.....		
Pollack, salted	16,000	300	16,000	300	.....	.....	.....	.....	.....	.....	.....	.....		
Shad, fresh	141,000	3,800	.....	.....	72,000	1,000	.....	.....	69,000	2,800	.....	.....		
Shad, salted	258,000	6,500	.....	.....	258,000	6,500	.....	.....	.....	.....	.....	.....		
Smelt	29,000	2,400	.....	.....	24,000	2,000	.....	.....	.....	.....	5,300	400		
Swordfish	505,000	43,000	.....	.....	.....	.....	.....	.....	.....	.....	505,000	43,000		
Tomcod	17,000	500	11,000	300	.....	.....	.....	.....	.....	.....	6,000	200		
All other	26,000	300	13,000	200	.....	.....	.....	.....	9,300	100	3,000	(2)		
Livers	51,000	500	51,000	500	.....	.....	.....	.....	.....	.....	.....	.....		
Sounds	19,000	800	19,000	800	.....	.....	.....	.....	.....	.....	.....	.....		
Lobster	1,031,000	134,000	.....	.....	.....	.....	.....	.....	.....	.....	1,031,000	134,000		
Clams, soft	[3] 100,000	4,300	.....	.....	.....	.....	.....	.....	.....	.....	[3] 100,000	4,300		
Scallops	[4] 473,000	38,000	.....	.....	.....	.....	.....	.....	.....	.....	[4] 473,000	38,000		
Squid	800	(2)	.....	.....	.....	.....	.....	.....	800	(2)	.....	.....		
Oil, fish	[5] 83,000	3,600	[5] 83,000	3,600	.....	.....	.....	.....	.....	.....	.....	.....		

[1] Includes apparatus, with catch, as follows: Lobster and eel pots, 1,115,000 pounds, valued at $137,000; harpoons, spears, etc., 505,000 pounds, valued at $43,000; dredges, tongs, etc., 563,000 pounds, valued at $42,000; bag nets, 11,000 pounds, valued at $600; dip nets, 88,000 pounds, valued at $300; and minor apparatus, 13,000 pounds, valued at $400.

[2] Less than $100.

[3] 10,000 gallons.

[4] 59,000 gallons.

[5] 11,000 gallons.

MARYLAND.

In respect to fisheries Maryland stands high among the states, ranking fifth in 1908, with a product valued at $3,306,000. Likewise the fisheries of Maryland rank high among the industries of the state. Chesapeake Bay and its tributary streams, the Potomac, Susquehanna, Patuxent, Choptank, Nanticoke, and lesser rivers, form the greatest oyster area in the world. In 1908 the value of the oyster product constituted two-thirds of the total value of the fishery product of the state.

The fishing grounds of Maryland are naturally divided into two districts comprising those of the Atlantic Ocean and those of Chesapeake Bay and its tributary waters. As the water front of the state on Chesapeake Bay and its tributaries is much more extensive than the Atlantic water front, the Chesapeake Bay fisheries are much more important than those of the Atlantic Ocean, which in 1908 contributed only 4 per cent of the total value of fishery products for the state.

The following statement gives a general summary of the statistics of the state's fisheries for 1908:

Number of persons employed	18,392
Capital:	
Vessels and boats, including outfit	$1,644,000
Apparatus of capture	369,000
Shore and accessory property and cash	86,000
Value of products	3,306,000

Comparison with previous canvasses.—A comparison of the general statistics for different years shows considerable fluctuations. The following tabular statement gives the number of persons employed, exclusive of shoresmen, the capital invested, and the products, as shown by the census returns for 1880 and 1908 and the reports of the Bureau of Fisheries for 1891, 1897, and 1904:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	18,316	$2,013,000	$1,644,000	$369,000	113,796,000	$3,306,000
1904	20,054	1,870,000	1,534,000	336,000	81,129,000	3,337,000
1897	26,627	2,303,000	1,907,000	396,000	88,588,000	3,617,000
1891	28,209	2,913,000	2,418,000	495,000	141,178,000	6,461,000
1880	15,873	2,234,000	1,936,000	297,000	95,713,000	5,222,000

Persons employed.—The statistics of the persons employed in the fisheries of the state in 1908 are shown in the next tabular statement.

All the shoresmen were connected with shore and boat fisheries. In this class of fisheries 13,326 persons were employed, as compared with only 4,046 persons in vessel fisheries and 1,020 on transporting vessels. Wage-earners outnumbered proprietors and independent fishermen by only a small percentage. The 9,948 salaried employees and wage-earners were paid in cash and provisions $1,036,000, an amount equal to 31 per cent of the value of the fishery products.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	18,392	[1] 8,444	6	9,942	$1,036,000	$1,000	[2] $1,035,000
Vessel fisheries	4,046	607	.....	3,439	374,000	.....	374,000
Transporting vessels	1,020	305	.....	715	101,000	.....	101,000
Shore and boat fisheries	13,250	7,532	6	5,712	557,000	1,000	556,000
Shoresmen	76	.....	.....	76	5,200	.....	5,200
Chesapeake Bay district	17,806	8,154	6	9,646	991,000	1,000	990,000
Vessel fisheries	4,046	607	.....	3,439	374,000	.....	374,000
Transporting vessels	975	276	.....	699	99,000	.....	99,000
Shore and boat fisheries	12,709	7,271	6	5,432	513,000	1,000	512,000
Shoresmen	76	.....	.....	76	5,200	.....	5,200
Atlantic Ocean district	586	290	.....	296	45,000	.....	45,000
Transporting vessels	45	29	.....	16	1,200	.....	1,200
Shore and boat fisheries	541	261	.....	280	44,000	.....	44,000

[1] Exclusive of 367 proprietors not fishing.

[2] Includes provisions furnished to the value of $159,000.

Equipment and other capital.—The following tables give the value of equipment and capital in 1908 as distributed among vessels, boats, apparatus of capture, shore and accessory property, and cash, for the state as a whole and for the Atlantic Ocean and Chesapeake Bay districts separately:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Chesapeake Bay district.	Atlantic Ocean district.
Total	$2,099,000	$2,019,000	$80,000
Vessels, including outfit	1,001,000	985,000	15,000
Fishing	593,000	593,000	.....
Steam and motor	65,000	65,000	.....
Vessels	50,000	50,000	.....
Outfit	15,000	15,000	.....
Sail	528,000	528,000	.....
Vessels	406,000	406,000	.....
Outfit	122,000	122,000	.....
Transporting	408,000	392,000	15,000
Steam and motor	24,000	23,000	1,100
Vessels	22,000	21,000	1,000
Outfit	2,100	2,000	100
Sail	383,000	369,000	14,000
Vessels	343,000	330,000	13,000
Outfit	40,000	39,000	1,000
Boats	644,000	615,000	28,000
Steam and motor	220,000	200,000	20,000
Sail	394,000	378,000	5,200
Row	31,000	29,000	1,300
Other	9,300	8,000	1,300
Apparatus of capture	369,000	335,000	34,000
Vessel fisheries	51,000	51,000	.....
Shore and boat fisheries	318,000	284,000	34,000
Shore and accessory property	80,000	77,000	2,400
Cash	6,500	6,500	.....

The statistics concerning the number and tonnage of vessels and the number of boats are shown in the first tabular statement following.

Of the total capital invested, $1,644,000, or 78 per cent, represented the value of vessels and boats, including outfit. Of the remainder, the investment in apparatus of capture was the largest item, having a value of $369,000, and this was followed by shore and accessory property, with a value of $80,000. The distribution of the apparatus of capture by districts and by class of fisheries is shown in the second tabular statement following.

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Chesapeake Bay district.	Atlantic Ocean district.
Vessels, number	1,107	1,091	16
Fishing, number	757	757	.....
Steam and motor—			
Number	21	21	.....
Tonnage	310	310	.....
Sail—			
Number	736	736	.....
Tonnage	7,061	7,061	.....
Transporting, number	350	334	16
Steam and motor—			
Number	17	16	1
Tonnage	134	127	7
Sail—			
Number	333	318	15
Tonnage	7,813	7,644	169
Boats, number	8,493	8,142	351
Steam and motor	852	783	69
Sail	5,238	5,164	74
Row	2,135	2,072	63
Other	268	123	145

KIND.	APPARATUS OF CAPTURE: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Chesapeake Bay district.	Atlantic Ocean district.	Vessel fisheries.	Shore and boat fisheries.
Bow nets	59	59	.....	.....	59
Dip nets	1,524	1,494	30	.....	1,524
Fyke and hoop nets	5,079	5,079	.....	380	4,699
Gill nets	4,818	4,149	669	144	4,674
Eel pots	4,664	4,214	450	1,435	3,229
Pound and trap nets	1,364	1,347	17	89	1,275
Seines	185	150	35	12	173
Trammel nets	12	12	.....	2	10
Otter and muskrat traps	29,003	29,003	.....	.....	29,003

Products, by species.—The products are given, by species and by apparatus of capture, in Table 1 on page 149. Oysters ranked first both in quantity and in value. On the basis of quantity the species next in order were alewives, or river herring, with a product of nearly 29,000,000 pounds; crabs, with over 20,000,000 pounds; menhaden, with over 12,000,000 pounds; and shad, with nearly 4,000,000 pounds. On the basis of value the leading species after oysters were crabs, shad, and alewives, in the order named.

The heavy catch of menhaden stood relatively low in value, and was exceeded in this respect by striped bass, squeteague, and muskrat skins.

Products, by fishing grounds.—Table 2, on page 150, gives the products of the Maryland fisheries in the Chesapeake Bay district by species and by apparatus of capture, and Table 3, on page 151, gives similar statistics for the Maryland fisheries of the Atlantic Ocean, all of which were of the shore and boat class. For the Chesapeake Bay district the leading products, in the order of value, were the same as those already noted for the state, namely, oysters, crabs, shad, and alewives; while for the Atlantic Ocean fisheries the leading products with respect to value were squeteague, oysters, sturgeon (including caviar), and yellow perch, in the order named.

SPECIES.	VALUE OF PRODUCTS: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Chesapeake Bay district.	Atlantic Ocean district.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,306,000	$3,187,000	$119,000	$767,000	$2,539,000
Fish	684,000	592,000	92,000	67,000	618,000
Shad	247,000	247,000	(1)	20,000	227,000
Alewives, or river herring	157,000	155,000	1,100	4,800	152,000
Striped bass	65,000	62,000	3,500	3,700	61,000
Squeteague, or sea trout	47,000	6,200	40,000	100	46,000
Perch, white	30,000	28,000	2,400	1,500	29,000
Menhaden	30,000	30,000	400	30,000	400
Perch, yellow	22,000	15,000	7,200	400	22,000
Catfish	18,000	18,000	.....	800	18,000
Sturgeon, caviar, and sturgeon eggs	16,000	1,600	14,000	.....	16,000
Eels	13,000	12,000	500	4,900	7,800
All other	40,000	17,000	22,000	1,300	38,000
Oysters	2,228,000	2,205,000	24,000	686,000	1,543,000
Market	2,127,000	2,113,000	14,000	676,000	1,451,000
Seed	101,000	92,000	9,600	9,600	92,000
Crabs	319,000	319,000	100	15,000	305,000
Clams	16,000	15,000	1,400	.....	16,000
Skins, muskrat and otter	50,000	50,000	.....	.....	50,000
All other[2]	7,800	6,400	1,400	.....	[2] 7,800

[1] Less than $100.

[2] Includes products valued as follows: Terrapin, $4,900; frogs, $500; turtles, $400; squid, $200; and sea grass, $1,700.

Products, by class of fisheries.—Table 4, on page 151, gives the products for 1908, by species and by apparatus of capture, for the vessel fisheries of the state, all of which are confined to the Chesapeake Bay district, and Table 5, on page 152, gives similar data for the shore and boat fisheries. In the latter the four leading species—oysters, crabs, shad, and alewives—aggregated 81,019,000 pounds, or 94 per cent of the total product, and their combined value was $2,226,000, or 88 per cent of the total. Oysters alone contributed 89 per cent to the total value of products of the vessel fisheries and 61 per cent to the total value of products of the shore and boat fisheries. Of the value of the Maryland oyster product, 31 per cent was reported by the vessel fisheries and 69 per cent by the shore and boat fisheries. Practically the entire catch of menhaden was made by vessels. With the exception of oysters and menhaden, the catch by vessels was small, compared with that of the shore and boat fisheries. The products of the shore and boat fisheries of the Chesapeake Bay district, which in the aggregate amounted to 83,247,000 pounds, having a value of $2,420,000, can readily be ascertained by subtracting the items of Table 4 from the corresponding items of Table 2 giving the total products of the Chesapeake Bay district.

The tabular statement immediately preceding shows the distribution of the value of products reported for the leading species between the vessel fisheries and the shore and boat fisheries.

Products, by apparatus of capture.—All but 5 per cent of the total products, increased by value, was taken with the five classes of apparatus specified in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.	
	Amount.	Per cent distribution.
Total	$3,306,000	100
Dredges, tongs, etc.	2,393,000	72
Pound and trap nets	321,000	10
Gill nets	174,000	5
Seines	128,000	4
Lines	124,000	4
All other	166,000	5

On account of the large oyster catch, dredges, tongs, etc., are by far the most important apparatus of capture in both the vessel and the shore and boat fisheries of Chesapeake Bay; but in the Atlantic Ocean fisheries the largest catch was credited to pound and trap nets. For the fisheries of the state pound and trap nets are second in importance as apparatus of capture, and are used for taking a large number of species. Alewives made up the bulk of the catch, contributing 82 per cent of the total weight and 32 per cent of the total value; shad stood second, following closely in value, although the weight of this product was only one-fifteenth as great as that of the alewife catch; and squeteague was third.

Oysters.—The oyster product of Maryland for 1908 was substantially greater than that for 1904 but less than that for 1897. The yield for 1904 was abnormally small, a fact attributed by some authorities to the two exceptionally cold winters just preceding, which killed many of the oysters. The value of the product, however, steadily decreased from $2,885,000 in 1897 to $2,418,000 in 1904 and to $2,228,000 in 1908. This decrease of $657,000, or 23 per cent, in the value of the oyster product during the 11 years from 1897 to 1908 contrasts sharply with an increase of $345,000, or 47 per cent, in the aggregate value of all other fishery products during the same period. From 1904 to 1908, however, the decrease in the value of the oyster yield, which amounted to $189,000, or 8 per

cent, was at a rate only one-half as great as that of the decrease in the value of all other fishery products during this period, namely, 17 per cent. The percentage of the total value of fishery products which was represented by the value of oysters was lower in 1908 than in 1904, 1897, or 1880, as is shown by the following tabular statement:

YEAR.	Total value of fishery products.	OYSTER PRODUCT.		
		Quantity (bushels).	Value.	
			Amount.	Per cent of total.
1908	$3,306,000	6,232,000	$2,228,000	67
1904	3,337,000	4,430,000	2,418,000	72
1897	3,617,000	7,255,000	2,885,000	80
1880	5,222,000	10,600,000	4,730,000	91

Of the total oyster product of 1908, 6,076,000 bushels, valued at $2,142,000, were furnished by public areas. Private areas produced only market oysters, and of these, only 156,000 bushels, valued at $86,000. Private beds were of considerably more importance in 1904, when they were credited with 465,000 bushels, valued at $302,000. No record of the yield of private areas is given for 1897.

Alewives.—The bulk of the catch of alewives, locally called herring, was reported by the shore and boat fisheries of Chesapeake Bay. The product was larger in 1908 than in any previous year, in both quantity and value, and its relative importance among the fishery products of the state was greater. The quantity of alewives sold fresh in 1908 was more than double that in 1897, and the value more than a third higher. Compared with 1904, which was a poor year for this species, the increase shown for 1908 is much greater. The quantity sold salted has steadily decreased. On account of an increase in price, the value for 1908 was in excess of that for 1897, though less than the value reported for 1904. The value of the total alewife catch has increased steadily since 1897, from $123,000 to $157,000 in 1908. The following tabular statement gives the alewife product for the most recent years for which figures are available:

YEAR.	ALEWIFE PRODUCT.					
	Total.		Fresh.		Salted.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	28,805,000	$157,000	24,451,000	$98,000	4,354,000	$59,000
1904	14,485,000	138,000	9,589,000	55,000	4,896,000	83,000
1897	17,136,000	123,000	11,727,000	73,000	5,409,000	51,000
1880	9,129,000	140,000	.....	.....	.....	.....

Crabs.—The heavy increase shown in the crab product from 1897 to 1904 did not continue up to 1908. Although a gain of nearly 2,000,000 pounds was reported from 1904 to 1908, the value decreased by $39,000. The quantity of crabs marketed in 1908 was considerably more than double that in 1897, and the returns to the fishermen were 46 per cent greater.

YEAR.	CRAB PRODUCT.					
	Total.		Hard crabs.		Soft crabs.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
1908	20,373,000	$319,000	12,786,000	$124,000	7,587,000	$195,000
1904	18,398,000	359,000	12,665,000	169,000	5,733,000	190,000
1897	9,449,000	218,000	5,833,000	40,000	4,116,000	178,000

Menhaden.—The menhaden catch, though not relatively important on the basis of value, is conspicuous for quantity. In 1880 the quantity reported was 3,903,000 pounds, valued at $12,000; in 1897, 353,000 pounds, valued at $400; in 1904, 9,849,000 pounds, valued at $20,000; and in 1890, 27,969,000 pounds, valued at $57,000. This species has such migratory habits that the catch for any particular year can not be taken as characteristic of the period or locality in question.

Shad.—The catch of shad has increased considerably since 1904, 3,937,000 pounds being taken in 1908, as compared with 2,912,000 pounds in the former year. The catch in 1897, however, 5,800,000 pounds, was far in excess of those in either of the later years. Scarcity and increasing demand, however, have raised the price, so that while the catch in 1904 was only half that of 1897, its value was a trifle greater, the catch in 1904 being valued at $160,000 and that in 1897 at $159,000. The price has continued to increase, and the 1908 catch was valued at $247,000.

Squeteague.—The catch of squeteague, or sea trout, reported principally by the Atlantic Ocean fisheries, was larger in 1908 and of greater value than in either 1904 or 1897, as is shown by the following tabular statement:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	1,191,000	$47,000
1904	785,000	23,000
1897	597,000	15,000

TABLE 1.—MARYLAND—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Pound and trap nets.		Gill nets.		Seines.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	113,796,000	$3,306,000	27,105,000	$321,000	3,038,000	$174,000	17,983,000	$128,000	11,491,000	$124,000	769,000	$39,000	53,409,000	$2,520,000
Fish:														
Alewives, or river herring	28,805,000	157,000	22,255,000	103,000	418,000	2,400	6,022,000	51,000	.....	.....	110,000	500	.....	.....
Black bass	15,000	1,500	4,200	500	7,500	700	3,200	400	.....	.....	.....	.....	.....	.....
Bluefish	14,000	700	2,300	100	12,000	500	.....	.....	500	(2)	.....	.....	.....	.....
Butterfish	151,000	7,400	151,000	7,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carp, German	167,000	7,100	49,000	1,700	23,000	900	78,000	3,500	.....	.....	15,000	900	2,500	100
Catfish	409,000	18,000	135,000	5,400	17,000	600	59,000	2,300	14,000	1,200	177,000	8,000	7,300	500
Croaker	179,000	5,300	164,000	4,900	.....	.....	.....	.....	15,000	400	.....	.....	.....	.....
Drum, salt-water	39,000	500	38,000	500	.....	.....	.....	.....	500	(2)	.....	.....	.....	.....
Eels	221,000	13,000	16,000	1,000	.....	.....	3,800	200	.....	.....	26,000	1,500	175,000	9,900
Flounders	47,000	2,100	47,000	2,100	100	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish	4,600	500	2,700	300	.....	.....	.....	.....	1,900	200	.....	.....	.....	.....
Mackerel	4,400	900	4,400	900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Menhaden	12,293,000	30,000	1,032,000	1,700	.....	.....	11,261,000	28,000	.....	.....	.....	.....	.....	.....
Mullet	47,000	1,600	14,000	600	28,000	800	600	(2)	300	(2)	4,400	200	.....	.....
Perch, white	545,000	30,000	219,000	12,000	35,000	2,100	103,000	6,200	1,600	100	185,000	10,000	.....	.....
Perch, yellow	359,000	22,000	72,000	3,500	24,000	2,000	111,000	8,900	800	(2)	151,000	7,800	.....	.....
Pike and pickerel	35,000	3,800	7,000	800	3,000	300	12,000	1,200	.....	.....	13,000	1,400	.....	.....
Pompano	300	100	300	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sea bass	225,000	6,800	300	(2)	.....	.....	.....	.....	225,000	6,800	.....	.....	.....	.....
Shad	3,937,000	247,000	1,476,000	100,000	2,282,000	134,000	74,000	5,100	.....	.....	36,000	2,500	71,000	5,800
Spot	3,100	100	2,800	100	.....	.....	300	(2)	.....	.....	.....	.....	.....	.....
Striped bass	640,000	65,000	277,000	27,000	152,000	16,000	152,000	16,000	500	100	49,000	5,200	9,000	1,200
Sturgeon	37,000	5,000	7,600	900	30,000	4,100	.....	.....	.....	.....	.....	.....	.....	.....
Caviar and sturgeon eggs	8,100	11,000	1,000	1,000	7,100	9,800	.....	.....	.....	.....	.....	.....	.....	.....
Squeteague	1,191,000	47,000	1,107,000	43,000	100	(2)	8,800	700	75,000	2,900	.....	.....	.....	.....
All other	26,000	1,300	900	100	1,100	(2)	24,000	1,200	.....	.....	100	(2)	.....	.....
Frogs	1,000	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	500
Crabs, hard	12,786,000	124,000	10,000	100	.....	.....	.....	.....	11,035,000	106,000	.....	.....	1,741,000	18,000
Crabs, soft	7,587,000	195,000	.....	.....	.....	.....	71,000	3,400	115,000	5,500	.....	.....	7,402,000	186,000
Squid	6,900	200	6,900	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clams, hard	[3] 82,000	16,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3] 82,000	16,000
Oysters, market, from public areas	[4] 39,718,000	2,041,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 39,718,000	2,041,000
Oysters, market, from private areas	[5] 1,094,000	86,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,094,000	86,000
Oysters, seed, from public areas	[6] 2,812,000	101,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 2,812,000	101,000
Terrapin	9,200	4,900	3,300	2,200	.....	.....	.....	.....	.....	.....	2,200	700	3,800	2,000
Turtles	8,100	400	200	(2)	.....	.....	300	(2)	6,000	300	1,600	100	.....	.....
Sea grass	252,000	1,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	252,000	1,700
Skins, muskrat	[7] 38,000	50,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 38,000	50,000
Skins, otter	(8)	(8)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(8)	(8)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 50,250,000 pounds, valued at $2,393,000; dip nets, 2,817,000 pounds, valued at $59,000; otter and muskrat traps, 39,000 pounds, valued at $50,000; eel pots, 181,000 pounds, valued at $10,000; bow nets, 36,000 pounds, valued at $3,600; trammel nets, 12,000 pounds, valued at $1,200; and minor apparatus, 75,000 pounds, valued at $2,700.

[2] Less than $100. [3] 10,000 bushels. [4] 5,674,000 bushels. [5] 156,000 bushels. [6] 402,000 bushels. [7] 115,000 skins. [8] Less than 100 pounds.

TABLE 2.—MARYLAND—FISHERY PRODUCTS OF CHESAPEAKE BAY DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Seines.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	111,193,000	$3,187,000	25,775,000	$268,000	2,946,000	$156,000	17,565,000	$116,000	11,182,000	$114,000	769,000	$39,000	52,956,000	$2,494,000
Fish:														
Alewives, or river herring, fresh	24,345,000	97,000	19,577,000	68,000	418,000	2,400	4,241,000	26,000	.....	.....	110,000	500	.....	.....
Alewives, or river herring, salted	4,354,000	59,000	2,673,000	35,000	200	(2)	1,680,000	23,000	.....	.....	.....	.....	.....	.....
Black bass	15,000	1,500	4,200	500	7,400	700	3,000	400	.....	.....	.....	.....	.....	.....
Bluefish	14,600	600	1,700	100	12,000	500	.....	.....	500	(2)	.....	.....	.....	.....
Butterfish	5,800	200	5,800	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carp, German	166,000	7,100	49,000	1,700	22,000	900	77,000	3,500	.....	.....	15,000	900	2,500	100
Catfish	409,000	18,000	135,000	5,400	17,000	600	59,000	2,300	14,000	1,200	177,000	8,400	7,300	500
Croaker	4,200	100	4,200	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drum, salt-water	25,000	400	24,000	400	.....	.....	.....	.....	500	(2)	.....	.....	.....	.....
Eels	214,000	12,000	16,000	1,000	.....	.....	3,800	200	.....	.....	26,000	1,500	169,000	9,400
Flounders	31,000	1,600	31,000	1,600	100	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish	2,500	200	600	(2)	.....	.....	.....	.....	1,900	200	.....	.....	.....	.....
Menhaden	12,053,000	30,000	1,002,000	1,700	.....	.....	11,051,000	28,000	.....	.....	.....	.....	.....	.....
Mullet	20,000	800	14,000	600	800	(2)	600	(2)	300	(2)	4,400	200	.....	.....
Perch, white	320,000	28,000	218,000	12,000	30,000	1,600	85,000	4,400	1,000	100	185,000	10,000	.....	.....
Perch, yellow	287,000	15,000	72,000	3,500	12,000	800	51,000	2,900	800	(2)	151,000	7,800	.....	.....
Pike and pickerel	31,000	3,400	7,000	800	1,800	200	9,000	1,000	.....	.....	13,000	1,400	.....	.....
Shad	3,936,000	247,000	1,475,000	100,000	2,282,000	134,000	74,000	5,100	.....	.....	35,000	2,500	71,000	5,800
Striped bass	604,000	62,000	276,000	27,000	140,000	14,000	130,000	14,000	500	100	49,000	5,200	9,000	1,200
Sturgeon	6,600	700	5,200	600	1,400	100	.....	.....	.....	.....	.....	.....	.....	.....
Caviar and sturgeon eggs	900	900	600	400	300	400	.....	.....	.....	.....	.....	.....	.....	.....
Squeteague, or sea trout	188,000	6,200	170,000	5,200	100	(2)	5,600	500	13,000	400	.....	.....	.....	.....
All other	29,000	1,300	3,100	100	1,100	(2)	24,000	1,200	.....	.....	100	(2)	.....	.....
Frogs	1,000	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	500
Crabs, hard	12,779,000	124,000	8,400	(2)	.....	.....	.....	.....	11,052,000	106,000	.....	.....	1,739,000	18,000
Crabs, soft	7,587,000	195,000	.....	.....	.....	.....	71,000	3,400	115,000	5,500	.....	.....	7,402,000	186,000
Clams, hard	[3] 74,000	15,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3] 74,000	15,000
Oysters, market, from public areas	[4] 39,665,000	2,036,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 39,665,000	2,036,000
Oysters, market, from private areas	[5] 1,012,000	77,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,012,000	77,000
Oysters, seed, from public areas	[6] 2,513,000	92,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 2,513,000	92,000
Terrapin	7,600	3,900	3,300	2,200	.....	.....	.....	.....	.....	.....	2,200	700	2,100	1,000
Turtles	5,100	200	200	(2)	.....	.....	300	(2)	3,000	100	1,600	100	.....	.....
Sea grass	252,000	1,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	252,000	1,700
Skins, muskrat	[7] 38,000	50,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 38,000	50,000
Skins, otter	(8)	(8)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(8)	(8)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 49,807,000 pounds, valued at $2,368,000; dip nets, 2,817,000 pounds, valued at $59,000; otter and musk rat traps, 39,000 pounds, valued at $50,000; eel pots, 175,000 pounds, valued at $9,800; bow nets, 36,000 pounds, valued at $3,600; trammel nets, 12,000 pounds, valued at $1,200; harpoons, spears, etc., 800 pounds, valued at $100; and minor apparatus, 73,000 pounds, valued at $1,700.
[2] Less than $100. [3] 9,200 bushels. [4] 5,566,000 bushels. [5] 145,000 bushels. [6] 359,000 bushels. [7] 115,000 skins. [8] Less than 100 pounds.

TABLE 3.—MARYLAND—FISHERY PRODUCTS OF ATLANTIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Pound and trap nets.		Gill nets.		Seines.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	2,602,000	$119,000	1,330,000	$53,000	93,000	$17,000	418,000	$12,000	309,000	$9,900	453,000	$27,000
Fish:												
Alewives, or river herring	106,000	1,100	5,000	100	.....	.....	101,000	1,000	.....	.....	.....	.....
Butterfish	145,000	7,200	145,000	7,200	.....	.....	.....	.....	.....	.....	.....	.....
Croaker	175,000	5,200	160,000	4,800	.....	.....	.....	.....	15,000	400	.....	.....
Drum, salt-water	14,000	100	14,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Eels	6,200	500	.....	.....	.....	.....	.....	.....	.....	.....	6,200	500
Flounders	16,000	500	16,000	500	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish	2,100	300	2,100	300	.....	.....	.....	.....	.....	.....	.....	.....
Mackerel	4,400	900	4,400	900	.....	.....	.....	.....	.....	.....	.....	.....
Menhaden	240,000	400	30,000	100	.....	.....	210,000	400	.....	.....	.....	.....
Mullet	27,000	800	.....	.....	27,000	800	.....	.....	.....	.....	.....	.....
Perch, white	25,000	2,400	900	100	5,000	500	18,000	1,800	600	(2)	.....	.....
Perch, yellow	72,000	7,200	.....	.....	12,000	1,200	60,000	6,000	.....	.....	.....	.....
Pike	3,700	400	.....	.....	1,200	100	2,500	200	.....	.....	.....	.....
Pompano	300	100	300	100	.....	.....	.....	.....	.....	.....	.....	.....
Sea bass	225,000	6,800	.....	.....	.....	.....	.....	.....	225,000	6,800	.....	.....
Striped bass	35,000	3,500	1,200	100	12,000	1,200	22,000	2,200	.....	.....	.....	.....
Sturgeon	31,000	4,300	2,400	300	28,000	4,000	.....	.....	.....	.....	.....	.....
Caviar and sturgeon eggs	7,200	10,000	400	600	6,800	9,400	.....	.....	.....	.....	.....	.....
Squeteague, or trout	1,002,000	40,000	937,000	38,000	.....	.....	3,200	200	62,000	2,500	.....	.....
All other	3,300	200	2,300	100	200	(2)	900	(2)	.....	.....	.....	.....
Crabs, hard	6,500	100	1,500	(2)	.....	.....	.....	.....	3,000	(2)	2,000	(2)
Squid	6,900	200	6,900	200	.....	.....	.....	.....	.....	.....	.....	.....
Clams, hard	[3] 8,400	1,400	.....	.....	.....	.....	.....	.....	.....	.....	[3] 8,400	1,400
Oysters, market, from public areas	[4] 53,000	4,700	.....	.....	.....	.....	.....	.....	.....	.....	[4] 53,000	4,700
Oysters, market, from private areas	[5] 82,000	9,400	.....	.....	.....	.....	.....	.....	.....	.....	[5] 82,000	9,400
Oysters, seed, from public areas	[6] 300,000	9,600	.....	.....	.....	.....	.....	.....	.....	.....	[6] 300,000	9,600
Terrapin	1,600	1,000	.....	.....	.....	.....	.....	.....	.....	.....	1,600	1,000
Turtles	3,000	200	.....	.....	.....	.....	.....	.....	3,000	200	.....	.....

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 443,000 pounds, valued at $25,000; eel pots, 6,200 pounds, valued at $500; and minor apparatus, 1,600, pounds, valued at $1,000.
[2] Less than $100. [3] 1,000 bushels. [4] 7,600 bushels. [5] 12,000 bushels. [6] 43,000 bushels.

TABLE 4.—MARYLAND—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Seines.		Fyke and hoop nets.		All other apparatus.[1]			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.		
Total	27,946,000	$767,000	1,938,000	$21,000	113,000	$8,000	11,092,000	$31,000	41,000	$2,000	14,762,000	$705,000		
Fish:														
Alewives, or river herring	778,000	4,600	776,000	4,500	2,500	100	.....	.....	.....	.....	.....	.....		
Bluefish	400	(2)	400	(2)	.....	.....	.....	.....	.....	.....	.....	.....		
Carp, German	18,000	600	1,000	(2)	.....	.....	16,000	600	.....	.....	.....	.....		
Catfish	22,000	800	2,200	100	1,000	100	1,000	(2)	16,000	600	1,700	100		
Eels	84,000	4,900	500	(2)	.....	.....	.....	.....	500	(2)	83,000	4,800		
Flounders	4,400	200	4,400	200	.....	.....	.....	.....	.....	.....	.....	.....		
Menhaden	12,021,000	30,000	970,000	1,600	.....	.....	11,051,000	28,000	.....	.....	.....	.....		
Perch, white	28,000	1,500	6,600	400	.....	.....	8,000	400	14,000	700	.....	.....		
Perch, yellow	7,600	400	.....	.....	500	(2)	100	(2)	7,000	400	.....	.....		
Pike and pickerel	4,000	500	500	100	.....	.....	300	(2)	3,800	400	.....	.....		
Shad	265,000	20,000	168,000	13,000	97,000	6,500	.....	.....	.....	.....	.....	.....		
Striped bass	36,000	3,700	9,300	800	12,000	1,300	15,000	1,600	200	(2)	.....	.....		
Squeteague, or sea trout	900	100	400	(2)	.....	.....	500	100	.....	.....	.....	.....		
Crabs, hard	480,000	6,200	.....	.....	.....	.....	.....	.....	.....	.....	480,000	6,200		
Crabs, soft	348,000	8,300	.....	.....	.....	.....	.....	.....	.....	.....	348,000	8,300		
Oysters, market, from public areas	[3] 13,391,000	670,000	.....	.....	.....	.....	.....	.....	.....	.....	[3] 13,391,000	670,000		
Oysters, market, from private areas	[4] 90,000	6,400	.....	.....	.....	.....	.....	.....	.....	.....	[4] 90,000	6,400		
Oysters, seed, from public areas	[5] 368,000	9,600	.....	.....	.....	.....	.....	.....	.....	.....	[5] 368,000	9,600		

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 14,574,000 pounds, valued at $698,000; eel pots, 84,000 pounds, valued at $4,900; lines, 95,000 pounds, valued at $2,100; and nets, 8,800 pounds, valued at $200.
[2] Less than $100. [3] 1,913,000 bushels. [4] 13,000 bushels. [5] 53,000 bushels.

TABLE 5.—MARYLAND—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Lines.		Seines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	85,850,000	$2,539,000	25,167,000	$300,000	2,926,000	$166,000	11,396,000	$122,000	6,891,000	$97,000	728,000	$37,000	38,744,000	$1,817,000
Fish:														
Alewives, or river herring, fresh	23,673,000	93,000	18,807,000	63,000	415,000	2,300			4,342,000	27,000	110,000	500		
Alewives, or river herring, salted	4,354,000	59,000	2,673,000	35,000	200	(2)			1,680,000	23,000				
Black bass	15,000	1,500	4,200	500	7,500	700			3,200	400				
Bluefish	14,000	600	1,800	100	12,000	500	500	(2)						
Butterfish	151,000	7,400	151,000	7,400										
Carp, German	149,000	6,500	48,000	1,600	23,000	900			61,000	2,900	15,000	900	2,500	100
Catfish	387,000	18,000	133,000	5,400	16,000	500	14,000	1,200	58,000	2,300	161,000	7,800	5,600	400
Croaker	179,000	5,300	164,000	4,900			15,000	400						
Drum, salt-water	39,000	500	38,000	500			500	(2)						
Eels	137,000	7,800	16,000	1,000					3,800	200	25,000	1,500	92,000	5,100
Flounders	42,000	1,900	42,000	1,900	100	(2)								
Kingfish	4,600	500	2,700	300			1,900	200						
Mackerel	4,400	900	4,400	900										
Menhaden	272,000	400	62,000	100					210,000	400				
Mullet	47,000	1,600	14,000	600	28,000	800	300	(2)	600	(2)	4,400	200		
Perch, white	516,000	29,000	212,000	12,000	35,000	2,100	1,600	100	95,000	5,800	172,000	9,400		
Perch, yellow	351,000	22,000	72,000	3,500	24,000	1,900	800	(2)	111,000	8,900	144,000	7,400		
Pike and pickerel	30,000	3,300	6,500	700	3,000	300			11,000	1,200	9,600	1,100		
Pompano	300	100	300	100										
Sea bass	225,000	6,800	300	(2)			225,000	6,800						
Shad	3,672,000	227,000	1,308,000	86,000	2,185,000	127,000			74,000	5,100	35,000	2,500	71,000	5,800
Spot	3,100	100	2,800	100					300	(2)				
Striped bass	694,000	61,000	268,000	27,000	140,000	14,000	500	100	137,000	14,000	48,000	5,200	9,000	1,200
Sturgeon	37,000	5,000	7,600	900	30,000	4,100								
Caviar and sturgeon eggs	8,100	11,000	1,000	1,000	7,100	9,800								
Squeteague, or sea trout	1,190,000	46,000	1,106,000	43,000	100	(2)	75,000	2,900	8,300	600				
All other	26,000	1,300	900	100	1,100	(2)			24,000	1,200	100	(2)		
Frogs	1,000	500												
Crabs, hard	12,306,000	118,000	10,000	100			10,940,000	104,000					1,000	500
Crabs, soft	7,239,000	187,000					115,000	5,500	71,000	3,400			1,358,000	14,000
Squid	6,900	200	6,900	200									7,054,000	178,000
Clams, hard	[3] 82,000	16,000												
Oysters, market, from public areas	[4] 26,327,000	1,372,000											[4] 82,000	16,000
Oysters, market, from private areas	[5] 1,004,000	80,000												
Oysters, seed, from public areas	[3] 2,444,000	92,000											[4] 26,327,000	1,372,000
Terrapin	9,200	4,900	3,300	2,200							2,200	700	[3] 1,004,000	80,000
Turtles	8,100	400	200	(2)			6,000	300	300	(2)	1,600	100	[3] 2,444,000	92,000
Sea grass	252,000	1,700											3,800	2,000
Skins, muskrat	[7] 38,000	50,000											252,000	1,700
Skins, otter	[8]	[8]											[7] 38,000	50,000
													[8]	[8]

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 35,676,000 pounds, valued at $1,695,000; dip nets, 2,809,000 pounds, valued at $59,000; otter and muskrat traps, 39,000 pounds, valued at $50,000; eel pots, 97,000 pounds, valued at $5,500; bow nets, 36,000 pounds, valued at $3,600; trammel nets, 11,000 pounds, valued at $1,200; harpoons, spears, etc., 800 pounds, valued at $100; and minor apparatus, 74,000 pounds, valued at $2,700.
[2] Less than $100. [3] 10,000 bushels. [4] 761,000 bushels. [5] 143,000 bushels. [6] 349,000 bushels. [7] 115,000 skins. [8] Less than 100 pounds.

MASSACHUSETTS.

In the value of fishery products and in the amount of capital invested in the fishery industry Massachusetts ranked first among the states, while in the number of persons employed it ranked third, Virginia being first and Maryland second. Cod, haddock, and mackerel were the most important species taken, the catch of each of these being larger than that of the respective species in any other state. Massachusetts ranked first also in the catch of 15 other species or forms of fish product, and second in 10 others.

The preeminence of the state was due to the great importance of its vessel fisheries, the headquarters of which are located in a few ports, notably Gloucester and Boston. On this account statistics are presented separately for the counties in which these cities are situated, namely, Essex County and Suffolk County; the statistics for the rest of the state are presented under the head "All other counties." The Essex County district takes in the ports along the north shore of Massachusetts Bay, on Cape Ann, and north to the New Hampshire line, with Gloucester as the chief port. The Suffolk County district represents principally the city of Boston, while the group "All other counties" embraces the counties of Norfolk, Plymouth, Barnstable, Bristol, Dukes, and Nantucket, including the ports on the south shore of Massachusetts Bay, Cape Cod, and Buzzards Bay. A summary of the principal statistics for the state and for the several districts is given in the following tabular statement:

	Total.	Essex County.	Suffolk County.	All other counties.
Number of persons employed	11,577	4,725	2,305	4,547
Capital:				
Vessels and boats, including outfit	$4,759,000	$2,157,000	$1,402,000	$1,200,000
Apparatus of capture	775,000	320,000	165,000	290,000
Shore and accessory property and cash	215,000	35,000	46,000	134,000
Value of products	7,095,000	3,030,000	1,749,000	2,316,000

The importance of Essex County in every item, except shore and accessory property and cash, is apparent.

Comparison with previous canvasses.—By examination of the statistics for 1889, 1898, 1902, and 1905 presented in the following tabular statement, it will be seen that at each successive canvass, except that of 1898, a larger value of products was reported than at the preceding canvass, but that for the other items the figures for 1908 are considerably less than those for 1889. During the past decade, however, there has been a gradual improvement in every respect, except that the number of persons employed and the weight of the catch decreased slightly from 1905 to 1908.

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	11,535	$5,534,000	$4,759,000	$775,000	244,313,000	$7,095,000
1905	12,618	5,216,000	4,453,000	762,000	255,654,000	7,025,000
1902	11,387	4,742,000	4,139,000	603,000	230,646,000	6,482,000
1898	10,341	3,450,000	2,894,000	557,000	202,258,000	4,464,000
1889	14,599	5,903,000	4,893,000	1,010,000	299,218,000	5,858,000

Persons employed.—The following table shows the distribution of the persons employed in the fisheries of Massachusetts, by districts and by class of service, for the state and for each county district:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	11,577	[1] 3,141	23	8,413	$2,743,000	$19,000	[2] $2,723,000
Vessel fisheries	7,568	468	15	7,085	2,408,000	14,000	2,394,000
Transporting vessels	63	8	2	53	27,000	2,500	25,000
Shore and boat fisheries	3,904	2,665	6	1,233	294,000	3,000	291,000
Shoresmen	42			42	14,000		14,000
Essex County	4,725	871	11	3,843	1,116,000	11,000	1,105,000
Vessel fisheries	3,727	125	8	3,594	1,054,000	7,500	1,046,000
Transporting vessels	20	1	2	17	12,000	2,500	9,300
Shore and boat fisheries	973	745	1	227	49,000	700	49,000
Shoresmen	5			5	1,100		1,100
Suffolk County	2,305	306	5	1,994	803,000	4,600	798,000
Vessel fisheries	1,819	57	5	1,757	737,000	4,600	732,000
Transporting vessels	27	2		25	13,000		13,000
Shore and boat fisheries	458	247		211	52,000		52,000
Shoresmen	1			1	800		800
All other counties	4,547	1,964	7	2,576	824,000	4,100	820,000
Vessel fisheries	2,022	286	2	1,734	617,000	1,800	616,000
Transporting vessels	16	5		11	2,100		2,100
Shore and boat fisheries	2,473	1,673	5	795	192,000	2,300	190,000
Shoresmen	36			36	12,000		12,000

[1] Exclusive of 943 proprietors not fishing.
[2] Includes provisions furnished to the value of $103,000.

The number of persons employed in the fisheries of Massachusetts formed 8 per cent of the total number for the United States. Of the 42 shoresmen, 15 were employed in the vessel fisheries and the remaining 27 in the shore and boat fisheries. While in the country as a whole shore and boat fishermen outnumbered vessel fishermen in the proportion of about three to one, in Massachusetts the vessel fishermen were nearly twice as numerous as the shore and boat fishermen, forming 21 per cent of the total number of vessel fishermen in the United States. Independent fishermen throughout the country comprised 50 per cent of all persons engaged in fishing, but in Massachusetts wage-earners constituted 73 per cent of the persons employed. This predominance of wage-earners was due to the vessel fisheries, for in the shore and boat fisheries the number of proprietors and independent fishermen was more than twice the number of persons working for wages or salaries.

Essex County reported 28 per cent of the proprietors and independent fishermen and 46 per cent of the total number of employees in the state. Of the wage-earners in the vessel fisheries, Essex County had 51 per cent, but it had only 18 per cent of the wage-earners in the shore and boat fisheries. In the latter class of fisheries 64 per cent of the wage-earners were reported by the southern counties included under the head "All other counties."

Suffolk County showed the same predominance of wage-earners as Essex County, but the total number

and the number in vessel fisheries were only about one-half as great. The number of wage-earners in the shore and boat fisheries was about the same in Suffolk County as in Essex County. Nearly three-fourths (73 per cent) of the vessel fishermen were found in Essex and Suffolk Counties and nearly two-thirds (63 per cent) of the shore and boat fishermen were found in the group comprising the other counties.

Equipment and other capital.—The following table gives, by county districts, the value of equipment and the amount of other capital employed in the fisheries of Massachusetts:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$5,750,000	$2,513,000	$1,613,000	$1,624,000
Vessels, including outfit	4,282,000	2,068,000	1,332,000	882,000
Fishing	4,204,000	2,032,000	1,301,000	870,000
Steam and motor	710,000	252,000	176,000	281,000
Vessels	563,000	188,000	148,000	227,000
Outfit	147,000	64,000	29,000	55,000
Sail	3,494,000	1,780,000	1,125,000	588,000
Vessels	2,283,000	1,215,000	746,000	322,000
Outfit	1,201,000	565,000	380,000	256,000
Other	600	.....	.....	600
Transporting	79,000	36,000	31,000	12,000
Steam and motor	71,000	33,000	27,000	11,000
Vessels	65,000	30,000	25,000	10,000
Outfit	6,200	3,400	1,900	800
Sail	7,500	2,100	4,100	1,300
Vessels	7,000	2,000	3,600	1,300
Outfit	500	100	400	.....
Boats	477,000	90,000	70,000	318,000
Steam and motor	376,000	67,000	65,000	244,000
Sail	54,000	10,000	500	43,000
Row	37,000	12,000	4,000	21,000
Other	10,000	.....	.....	10,000
Apparatus of capture	775,000	320,000	165,000	290,000
Vessel fisheries	515,000	271,000	145,000	99,000
Shore and boat fisheries	260,000	49,000	20,000	192,000
Shore and accessory property	164,000	30,000	7,800	127,000
Cash	51,000	5,700	38,000	7,400

The investment of Massachusetts in the fishing industry was larger than that of any other state, comprising 14 per cent of the total for the United States. Practically three-fourths (74 per cent) of the total state investment was in fishing vessels and their outfits. The total value of vessels and boats in this state was more than double that in the state next in rank, Virginia, and formed 19 per cent of the total investment in vessels and boats for the United States. In the value of boats alone and of apparatus of capture, however, Massachusetts was outranked by several states in which shore and boat fisheries were more prominent. Apparatus of capture represented 13 per cent of the Massachusetts investment, having a value higher than the value of boats and of shore and accessory property combined with cash capital.

The value of all sailing vessels, including outfits, was between four and five times that of steam vessels, being $3,501,000, as compared with $781,000. Among the boats, however, power-driven craft contributed 79 per cent of the total value.

The following table gives detailed statistics concerning the number and tonnage of vessels and the number of boats:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Vessels, number	664	282	117	265
Fishing, number	638	274	105	259
Steam and motor—				
Number	244	62	9	173
Tonnage	3,551	1,212	511	1,828
Sail—				
Number	394	212	96	86
Tonnage	26,215	13,443	6,046	6,726
Other, number	7	.....	.....	7
Transporting, number	26	8	12	6
Steam and motor—				
Number	19	5	10	4
Tonnage	314	118	145	51
Sail—				
Number	7	3	2	2
Tonnage	211	97	71	43
Boats, number	3,694	906	389	2,399
Steam and motor	1,114	242	177	695
Sail	319	38	3	278
Row	2,145	626	209	1,310
Other	116	.....	.....	116

Of the investment in apparatus of capture, approximately two-thirds was in the vessel fisheries and one-third in the shore and boat fisheries. The distribution of the several kinds of apparatus by districts and by class of fisheries is given in the following tabular statement:

KIND.	APPARATUS OF CAPTURE: 1908.					
	Total.	Distributed by districts.			Distributed by class of fisheries.	
		Essex County.	Suffolk County.	All other counties.	Vessel fisheries.	Shore and boat fisheries.
Bag nets	20	20	.....	.....	.....	20
Beam trawls	126	.....	.....	126	68	58
Cast nets	2	.....	.....	2	.....	2
Cockle nets and traps	1,059	283	646	130	50	1,009
Cunner nets and traps	180	146	34	.....	.....	180
Dip nets	371	154	139	78	.....	371
Flounder dredges	11	.....	.....	11	10	1
Fyke nets	42	7	.....	35	1	41
Gill nets	9,045	4,500	788	3,757	8,280	765
Harpoons, spears, etc	1,577	541	343	693	1,238	339
Pots—crab, eel, and lobster	43,342	11,985	6,862	24,495	2,176	41,166
Pound and trap nets	216	41	6	169	25	191
Seines[1]	289	192	54	143	299	90

[1] Includes otter trawls.

Products, by species.—Table 1, on page 159, gives the fishery products of the state, by species and by apparatus of capture.

Sixty distinct species were represented, the most important being cod, haddock, and mackerel, which together contributed 53 per cent of the value of all fishery products of the state. The cod and the haddock catch each exceeded a million dollars in value. For eight other products—clams (including all three varieties, hard, soft, and razor), herring, pollack, halibut, lobsters, sperm oil, hake, and oysters—values in excess of $200,000 were reported. The value reported for the 11 species named formed 86 per cent of the total value of products. Flounders, swordfish, and scallops had values in excess of $100,000.

Products, by county districts.—The fishery products, by principal species and by county districts, are given in Table 2, on page 160, where they are ranked according to the value reported for the state as a whole.

The value of the products was distributed among the districts as follows: Essex County, 43 per cent; Suffolk County, 25 per cent; and "All other counties," 33 per cent. The products reported for "All other counties" were much more diversified than those of Essex and Suffolk Counties. Cod was the leading species with respect to value in Essex and Suffolk Counties. Mackerel ranked next to cod in value in Essex County, and haddock in Suffolk County. In the rest of the state whale products ranked first and cod second. Haddock and mackerel were important products in each district. All the oysters and whale products, and 57 per cent of the value of the clams, were reported by the southern counties grouped under the designation "All other counties."

Products, by class of fisheries.—Tables 3 and 4, on pages 161 and 162, give the products for the vessel fisheries and for the shore and boat fisheries, respectively, by species and by apparatus of capture. The values of the chief species of products for each class of fisheries were as follows:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$7,095,000	$5,497,000	$1,598,000
Fish	5,637,000	4,971,000	666,000
Cod	1,944,000	1,811,000	133,000
Haddock	1,038,000	985,000	52,000
Mackerel	761,000	742,000	19,000
Herring	342,000	245,000	97,000
Pollack	313,000	265,000	48,000
Halibut	310,000	309,000	1,700
Hake	294,000	281,000	13,000
Flounders	146,000	66,000	81,000
Swordfish	122,000	121,000	900
All other	367,000	147,000	220,000
Clams	378,000	14,000	365,000
Whale oil, sperm oil, and whalebone	336,000	336,000	.....
Lobster	307,000	14,000	294,000
Oysters	218,000	97,000	121,000
Scallops	120,000	44,000	76,000
Cockles	34,000	4,300	29,000
Irish moss	25,000	.....	25,000
All other	40,000	18,000	21,000

The products of the vessel fisheries represented 77 per cent of the total value, and those of the shore and boat fisheries 23 per cent. All the products shown separately in the table were reported for both classes of fisheries, with the exception of the whale products, which were confined to the vessel fisheries, and Irish moss, reported for the shore and boat fisheries only. Of the species not shown separately, 13 which were returned by the shore and boat fisheries were absent from the reports of vessel fisheries, and 12 appearing in the returns of the latter were not reported for the former. For the vessel fisheries the rank of the leading products with respect to value followed closely the order for the state as a whole—cod, haddock, and mackerel leading by a wide margin, with a combined value which formed 64 per cent of that of the total product of these fisheries. In the shore and boat fisheries, on the other hand, clams and lobsters led, with a value equal to 41 per cent of the total, and these were followed by cod, oysters, and herring.

Table 5, on page 163, gives the products of the vessel fisheries, by species and by county districts. The statistics of the vessel catch in each district show the same general characteristics as those of the vessel catch of the state as a whole, except that for the Suffolk County district the value of the cod product is surpassed by that of haddock, while in the district designated as "All other counties" it was exceeded by that of the whale products.

Table 6, on page 164, gives the products of the shore and boat fisheries, by species and by county districts. In this class of fisheries conditions directly opposite to those appearing in the vessel fisheries exist, not only as to the rank of leading species, but also as to the importance of districts.

In the vessel fisheries Essex County contributed 47 per cent of the total value of products for the state; Suffolk County, 29 per cent; and "All other counties," 24 per cent. In the shore and boat fisheries, on the other hand, the district designated "All other counties" reported 63 per cent of the total value of products, while Essex County had 27 per cent and Suffolk County only 10 per cent. Only 14 species were taken in the Suffolk County shore and boat fisheries, of which four—lobsters, herring, cod, and flounders—contributed 70 per cent of the total value of the products. In Essex County twice that number of species were included in the shore and boat product, but 64 per cent of the value of this product represented the value of clams and lobsters. In the district designated "All other counties" 35 species made up the product. Although the quantities of cod, flounders, herring, haddock, pollack, and other important species reported were nearly as large or larger than those credited to the shore and boat fisheries of Essex or Suffolk County, the leading species were clams, lobsters, and oysters, which contributed 46 per cent of the total value of the products.

Products, by apparatus of capture.—The value of the catch, by each form of apparatus of capture, is given for the two classes of fisheries in the next tabular statement.

In the two classes of fisheries much the same apparatus was used, but the prominence of particular forms differed. Lines predominated in the vessel fisheries, while seines, gill nets, and whaling apparatus followed in importance in the order named. In the shore and boat fisheries the principal forms of apparatus, ranked according to the value of the catch, were dredges, tongs, etc.; pots and traps; lines; and pound nets, trap

nets, and weirs. From this it will be seen that the leading kinds of apparatus in one class of fisheries were of minor importance in the other.

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$7,095,000	$5,497,000	$1,598,000
Lines	3,930,000	3,649,000	281,000
Seines	805,000	754,000	51,000
Dredges, tongs, etc	741,000	155,000	586,000
Gill nets	393,000	384,000	9,000
Whaling apparatus	336,000	336,000	.....
Crab, eel, and lobster pots and traps	325,000	15,000	310,000
Pound nets, trap nets, and weirs	266,000	30,000	236,000
Harpoons, spears, etc	130,000	122,000	7,800
All other	169,000	53,000	116,000

The following tabular statement gives the value of the catch made with each form of apparatus of capture, by county districts:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$7,095,000	$3,030,000	$1,749,000	$2,316,000
Lines	3,930,000	1,822,000	1,410,000	698,000
Seines	805,000	539,000	204,000	63,000
Dredges, tongs, etc	741,000	149,000	14,000	578,000
Gill nets	393,000	276,000	24,000	94,000
Whaling apparatus	336,000	.....	.....	336,000
Crab, eel, and lobster pots and traps	325,000	121,000	35,000	169,000
Pound nets, trap nets, and weirs	266,000	28,000	.....	238,000
Harpoons, spears, etc	130,000	63,000	24,000	43,000
All other	169,000	33,000	39,000	98,000

The value of the line catch formed 55 per cent of the value of the total catch for the state and was the largest shown for any state, representing 42 per cent of the value of the total line catch of the United States. Although 30 species were taken with lines, 48 per cent of the value of the product taken in this way was contributed by cod. Nearly all of the cod, haddock, hake, and halibut and all of the cusk reported were taken by lines. The following tabular statement gives the value of the line catch, by principal species and by county districts:

SPECIES.	VALUE OF PRODUCT TAKEN WITH LINES: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$3,930,000	$1,822,000	$1,410,000	$698,000
Cod	1,876,000	1,035,000	531,000	310,000
Haddock	995,000	306,000	497,000	192,000
Halibut	309,000	229,000	61,000	20,000
Hake	289,000	72,000	184,000	33,000
Pollock	250,000	131,000	54,000	65,000
Cusk	75,000	32,000	34,000	6,700
Flounders	61,000	2,500	27,000	31,000
All other	77,000	14,000	22,000	40,000

The catch with seines represented only 11 per cent of the total value of products for the state, but ranked second to that with lines. The number of species captured by seines was 31, of which mackerel contributed 74 per cent of the total value of the catch by this form of apparatus. Essex County reported 67 per cent of the total value of the seine catch. The value of the seine product caught by vessel fisheries formed 94 per cent of the total value of product taken by this form of apparatus. The following tabular statement gives the value of the principal species captured by seines, for each county district:

SPECIES.	VALUE OF PRODUCT TAKEN IN SEINES: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$806,000	$539,000	$204,000	$63,000
Mackerel	594,000	435,000	131,000	28,000
Herring	63,000	39,000	16,000	8,200
Pollack	42,000	36,000	5,200	400
Haddock	33,000	2,200	30,000	.....
Cod	22,000	17,000	5,400	.....
Alewives	16,000	2,200	.....	14,000
Scrod	11,000	.....	11,000	.....
All other	26,000	8,500	5,100	12,000

Dredges, tongs, etc., ranked third in the value of the product taken. The following tabular statement gives the value of the catch, by species and by county districts:

SPECIES.	VALUE OF PRODUCT TAKEN WITH DREDGES, TONGS, ETC.: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$741,000	$149,000	$14,000	$578,000
Clams	372,000	148,000	9,600	215,000
Oysters	218,000	.....	.....	218,000
Scallops	120,000	.....	.....	120,000
Irish moss	25,000	300	.....	25,000
Cockles	5,000	600	4,400	.....
Crabs, soft	200	200	.....	.....
Mussels	100	100	.....	.....

Of the value of the product taken in this manner, 79 per cent was reported by the shore and boat fisheries. The amount returned by the vessel fisheries was entirely from the district designated "All other counties."

Gill nets took products valued at 6 per cent of the total, 87 per cent of the value representing that of herring and mackerel. The gill-net catch was reported principally by the vessel fisheries, and 70 per cent of the value was contributed by the Essex County district. The following tabular statement gives the value of the gill-net catch, by principal species and by county districts:

SPECIES.	VALUE OF PRODUCT TAKEN IN GILL NETS: 1908.			
	Total.	Essex County.	Suffolk County.	All other counties.
Total	$393,000	$276,000	$24,000	$94,000
Mackerel, fresh	146,000	46,000	16,000	84,000
Herring, salted	102,000	102,000	.....	.....
Herring, fresh	93,000	84,000	6,430	2,100
Cod, fresh	38,000	34,000	1,700	1,600
Pollack	6,400	6,400	.....	.....
All other	8,800	3,000	.....	5,800

Principal species.—Table 7, on page 164, gives the yield of the more important species during earlier years for which complete statistics are available, together with the percentage of the total value of products formed by the value of each species. The species are ranked in the order of the value of the catch in 1908.

Cod.—The most important product of the Massachusetts fisheries was cod, which contributed 28 per cent of the total value in 1908. The state catch of cod formed 66 per cent of that of the United States. The quantity and value of the product were less in 1908 than in 1889, but greater than for any other year shown. Cod were taken chiefly by the vessel fisheries, which reported 93 per cent of the total value. Fifty-three per cent of the aggregate product was taken by the Essex County fishermen. Nearly the whole product, 97 per cent, was caught by lines.

Haddock.—Haddock ranked second in value, contributing 15 per cent of the total value of the Massachusetts product. The Massachusetts catch contributed 80 per cent of the total value of the haddock product of the United States and was taken almost wholly in the vessel fisheries. The catch increased in weight and value in the period from 1889 to 1905, but prior to 1902 it was outranked in value by halibut and in 1902 by mackerel. Suffolk County had a larger product than Essex County, slightly over half of the total being taken in the former district. About the same proportion of haddock as of cod, 96 per cent of the total value, was taken with lines.

Mackerel.—The catch of this species, which stood third in value, contributed 11 per cent of the total value of the Massachusetts product, and represented 90 per cent of the value of the entire mackerel product of the United States. The 1908 catch was the smallest since 1898, both in quantity and value. In 1902 mackerel ranked next to cod. Vessel fisheries took 97 per cent of the 1908 catch, on the basis of value, and of the value credited to this class of fisheries 65 per cent was reported by the Essex County district. Mackerel were taken mostly with seines, 78 per cent of the total value representing the value of the seine haul. Gill nets took most of the remainder, the catch with this form of apparatus representing 19 per cent of the total value.

Herring.—The value of the herring product constituted 5 per cent of the total value of products for the state, and 43 per cent of the total value of herring for the United States, Massachusetts ranking second to Maine in this respect. Both the weight and the value of the herring catch have fluctuated more or less at the various canvasses, but the percentage which the catch represents of the total value of products of the state has decreased steadily since 1898. Since 1905, despite a large increase in quantity, this fish has suffered a substantial decrease in value. Of the total value of the herring product, 72 per cent was reported by the vessel fisheries and 28 per cent by the shore and boat fisheries. Essex County furnished 74 per cent of the total value for the state. The largest catch of herring, representing 57 per cent of the total value, was made by gill nets. The catch with seines represented 18 per cent of the value, while nearly all the remaining value was credited to pound and trap nets and to dip nets in proportions approximately equal.

Pollack.—Pollack was another important species, the value of the Massachusetts catch constituting over three-fourths of the value of the total pollack product for the country. Nearly 85 per cent of the Massachusetts catch was made in vessel fisheries, while more than one-half of this total value came from the Essex County district. In value and in relative importance, pollack has increased rapidly and uniformly since 1898, although in 1908 the quantity taken was considerably less than in 1905. Of the total value of the pollack product reported in 1908, 80 per cent represented the value of the catch taken with lines.

Halibut.—The halibut catch showed an increase in both quantity and value in 1908 over 1905, but a marked falling off as compared with the returns for earlier years. In 1889 and 1898 it ranked next to cod, and not until the canvass of 1905 did it represent less than 10 per cent of the total value of products for the state. The catch of this state, though far below that of Washington, contributed 20 per cent of the total value of the halibut product of the United States and ranked second in importance. Halibut was practically a vessel fishery product. Only 6 per cent came from the southern counties of Massachusetts, 74 per cent being reported from Essex County. Nearly all of the product was taken with lines.

Hake.—The Massachusetts hake product represented 63 per cent of the total value of the hake catch for the United States. In spite of the great fluctuations in quantity, the value has steadily increased since 1889. It is preeminently a vessel fishery product. Twenty-five per cent of the total value was reported by the Essex County district and 63 per cent by the Suffolk County district. Practically the entire catch was made by lines.

Catfish.—Catfish, or wolf fish, were taken to the value of $8,000. Nearly the entire catch, amounting to 557,000 pounds, was taken with lines. The vessel fisheries were credited with 368,000 pounds, valued at $4,400.

Clams.—Hard, soft, and razor clams were reported by the Massachusetts fisheries. The latter species were not taken in large quantities. For the other two species the values of the product reported were nearly the same. Clams were taken almost wholly in shore and boat fisheries. Fifty-seven per cent of

the total value of the state product was from the district designated as "All other counties," Essex County being the source of nearly all the remainder.

Whale products.—The value of the whale oil, sperm oil, and whalebone reported from Massachusetts, about two-thirds of which represented the value of sperm oil alone, comprised 68 per cent of the total reported for the United States in 1908. Since 1889 the value of the whale products of the state has decreased more or less steadily, the year 1898 alone showing a smaller value than 1908. These products, which were exclusively vessel fishery products, were taken principally by the New Bedford whaling fleets and were reported solely from the district "All other counties," of which they formed the leading product.

Lobster.—In the catch of lobster Massachusetts was second to Maine. The large increase in quantity and value in 1908 as compared with 1905 is worthy of note, compared with the gradual decrease in quantity and slight increase in value shown for prior canvasses. Over 95 per cent of the total value of the lobster product represented the value of lobster taken in shore and boat fisheries. Fifty per cent of the total value was contributed by counties included under the head "All other counties," while 39 per cent represented the value of the Essex County product.

Oysters.—Though taken in quantities sufficient to class them among the more important products of the Massachusetts fisheries, oysters were of far less importance than in states to the south. The quantity taken has increased steadily, but the value of the product has fluctuated greatly. Private beds furnished 96 per cent of the entire quantity. Of the total value of the oyster product, 45 per cent represented the value of the oysters taken in the vessel fisheries, and 55 per cent the value of those taken in the shore and boat fisheries. The entire product came from the southern counties. Forty thousand bushels of oysters, valued at $47,000, were taken by Connecticut fishermen from waters of Massachusetts, but are included in the statistics for Connecticut.

TABLE 1.—MASSACHUSETTS—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Lines.		Seines.[1]		Gill nets.		Pound nets, trap nets, and weirs.		All other apparatus.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	244,313,000	$7,095,000	161,888,000	$3,930,000	25,397,000	$806,000	14,885,000	$393,000	18,641,000	$266,000	23,503,000	$1,701,000
Fish:												
Albacore, or horse mackerel	92,000	5,400							92,000	5,400		
Alewives	4,062,000	45,000			1,693,000	16,000	25,000	400	1,052,000	7,000	1,292,000	20,000
Bluefish	42,000	4,300	11,000	1,200	6,200	600	9,300	1,400	15,000	1,100		
Bonito	65,000	4,000	200	(3)					65,000	3,900		
Butterfish	67,000	3,500	300	(3)	7,400	600	3,200	100	57,000	2,800		
Cod	72,819,000	1,955,000	69,191,000	1,876,000	1,590,000	33,000	1,750,000	38,000	288,000	8,200		
Cunner	102,000	5,600	600	(3)					2,300	100	99,000	5,500
Cusk	4,267,000	73,000	4,267,000	73,000								
Eels	722,000	32,000	118,000	5,800	154,000	700			47,000	1,000	403,000	25,000
Flounders	7,124,000	146,000	3,105,000	61,000	342,000	5,700	111,000	2,600	616,000	12,000	2,950,000	66,000
Haddock	48,492,000	1,038,000	46,649,000	995,000	1,436,000	33,000	104,000	1,300	303,000	8,600		
Hake	16,708,000	294,000	16,192,000	289,000	67,000	1,000	43,000	500	407,000	3,500		
Halibut	4,145,000	310,000	4,136,000	309,000	9,600	1,000						
Herring	28,501,000	342,000			7,554,000	63,000	9,936,000	195,000	5,536,000	44,000	5,476,000	40,000
Ling	73,000	1,300	73,000	1,300								
Mackerel	10,453,000	761,000	66,000	3,200	8,006,000	594,000	2,147,000	146,000	[4]233,000	18,000	500	(3)
Menhaden	258,000	1,400			253,000	1,300			5,000	200		
Perch, yellow	19,000	1,000			19,000	1,000						
Pollack	20,006,000	313,000	14,668,000	250,000	3,816,000	42,000	565,000	6,400	957,000	15,000		
Redfish, or rosefish	303,000	2,700	300,000	2,700	200	(3)	3,200	(3)				
Scup	1,136,000	40,000	329,000	12,000	800	(3)	13,000	400	793,000	27,000		
Sea bass	114,000	8,400	77,000	5,700					37,000	2,700		
Shad	389,000	12,000			367,000	11,000	2,000	100	20,000	700		
Silver hake, or whiting	5,589,000	39,000	921,000	8,300	4,000	(3)	125,000	1,300	4,540,000	29,000		
Silversides	3,500	600			3,500	600						
Skates	93,000	700	37,000	300	12,000	100	5,000	100	14,000	200	25,000	100
Smelt	16,000	2,500	13,000	2,200	3,200	300						
Squeteague, or weakfish	1,971,000	58,000	92,000	2,000	1,000	(3)	30,000	400	1,848,000	56,000		
Striped bass	5,100	800	2,900	300					200	(3)	2,000	500
Sturgeon	5,300	500			200	(3)			5,100	500		
Swordfish	1,642,000	122,000									1,642,000	122,000
Tautog	170,000	6,300	149,000	5,600					21,000	700		
Tomcod	7,000	200	5,000	100	2,000	100						
All other	604,000	8,400	555,000	7,800	33,000	400	9,100	100	8,000	100	500	(3)
Irish moss	737,000	25,000									737,000	25,000
Livers	605,000	6,900	601,000	6,800			4,000	(3)				
Sounds	73,000	3,100	73,000	3,100								
Crabs, hard	121,000	2,400									121,000	2,400
Crabs, soft	1,800	200									1,800	200
Lobster	2,455,000	307,000							200	(3)	2,455,000	307,000
Shrimp	5,800	1,300			5,400	1,200					400	100
Turtles	1,300	(3)							100	(3)	1,200	(3)
Clams, hard	[4]1,119,000	189,000									[4]1,119,000	189,000
Clams, razor	[5]24,000	3,000									[5]24,000	3,000
Clams, soft	[6]1,916,000	186,000									[6]1,916,000	186,000
Cockles	[7]130,000	34,000									[7]130,000	34,000
Mussels	[8]1,100	100									[8]1,100	100
Oysters, market, from public areas	[9]4,900	900									[9]4,900	900
Oysters, market, from private areas	[10]863,000	202,000									[10]863,000	202,000
Oysters, seed, from public areas	[11]43,000	3,100									[11]43,000	3,100
Oysters, seed, from private areas	[12]173,000	12,000									[12]173,000	12,000
Scallops	[13]502,000	120,000									[13]502,000	120,000
Squid	1,857,000	20,000	121,000	2,200	10,000	200			1,680,000	17,000	25,000	400
Whalebone	30,000	89,000									30,000	89,000
Oil, cod	[14]138,000	5,900	[14]138,000	5,900								
Oil, sperm	[15]2,913,000	218,000									[15]2,913,000	218,000
Oil, whale	[16]553,000	28,000									[16]553,000	28,000

[1] Includes otter trawls.

[2] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 5,363,000 pounds, valued at $741,000; whaling apparatus, 3,495,000 pounds, valued at $336,000; eel pots and traps, 2,830,000 pounds, valued at $325,000; harpoons, spears, etc., 1,767,000 pounds, valued at $130,000; beam trawls, 2,972,000 pounds, valued at $66,000; dip nets, 6,660,000 pounds, valued at $58,000; cockle nets and traps, 78,000 pounds, valued at $21,000; cunner nets and traps, 100,000 pounds, valued at $5,500; fyke nets, 52,000 pounds, valued at $2,200; cast nets, 109,000 pounds, valued at $2,000; bag nets, 2,000 pounds, valued at $500; and minor apparatus, 75,000 pounds, valued at $14,000.

[3] Less than $100.
[4] 2,400 bushels.
[5] 13,000 bushels.
[6] 700 bushels.
[7] 6,200 bushels.
[8] 63,000 gallons.
[9] 388,000 gallons.
[10] 140,000 bushels.
[11] 192 000 bushels.
[12] 100 bushels.
[13] 123,000 bushels.
[14] 25,000 bushels.
[15] 18,000 gallons.
[16] 74 000 gallons.

TABLE 2.—MASSACHUSETTS—FISHERY PRODUCTS, BY COUNTY DISTRICTS: 1908.

SPECIES.	TOTAL.		ESSEX COUNTY.		SUFFOLK COUNTY.		ALL OTHER COUNTIES.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	244,313,000	$7,095,000	106,007,000	$3,030,000	76,030,000	$1,749,000	62,276,000	$2,316,000
Fish	230,066,000	5,637,000	103,005,000	2,736,000	75,117,000	1,680,000	51,944,000	1,221,000
Cod	72,819,000	1,955,000	38,539,000	1,087,000	22,991,000	549,000	11,289,000	319,000
Haddock	48,492,000	1,038,000	14,770,000	309,000	24,511,000	527,000	9,211,000	202,000
Mackerel	10,453,000	761,000	6,475,000	483,000	2,017,000	147,000	1,961,000	131,000
Herring	28,501,000	342,000	17,342,000	232,000	6,441,000	47,000	4,718,000	43,000
Pollack	20,006,000	313,000	12,474,000	175,000	3,278,000	59,000	4,255,000	78,000
Halibut	4,145,000	310,000	3,230,000	229,000	682,000	62,000	233,000	20,000
Hake	16,708,000	294,000	4,356,000	74,000	10,254,000	185,000	2,098,000	36,000
Flounders	7,124,000	146,000	338,000	4,300	1,394,000	29,000	5,391,000	113,000
Swordfish	1,642,000	122,000	795,000	61,000	270,000	24,000	577,000	37,000
Cusk	4,367,000	73,000	1,845,000	32,000	2,029,000	34,000	393,000	6,700
Squeteague, or weakfish	1,971,000	58,000					1,971,000	58,000
Alewives	4,062,000	45,000	542,000	3,300			3,520,000	41,600
Scup	1,136,000	40,000	3,000	100			1,133,000	40,000
Silver hake, or whiting	5,589,000	39,000	1,503,000	4,000	712,000	7,100	3,374,000	28,000
Eels	722,000	32,000	202,000	3,600	91,000	5,500	429,000	23,000
Shad	389,000	12,000	308,000	7,900	10,000	300	72,000	3,300
Sea bass	114,000	8,400	(1)	(1)			114,000	8,400
Tautog	170,000	6,300	800	(1)			169,000	6,300
Cunner	102,000	5,600	73,000	4,000	29,000	1,600		
Albacore, or horse mackerel	92,000	5,400	8,800	300			83,000	5,100
Bluefish	42,000	4,300	900	100			41,000	4,200
Bonito	65,000	4,000	200	(1)			65,000	4,000
Butterfish	67,000	3,500	5,000	200	6,000	600	56,000	2,700
Redfish, or rosefish	303,000	2,700	162,000	1,600	139,000	1,100	2,000	(1)
Smelt	16,000	2,500	10,000	1,800	500	100	5,000	700
Menhaden	258,000	1,400	3,300	(1)			255,000	1,400
Ling	73,000	1,300					73,000	1,300
Perch, yellow	19,000	1,000					19,000	1,000
All other	717,000	11,000	219,000	3,200	260,000	2,400	239,000	5,500
Clams	[2] 3,060,000	378,000	1,529,000	153,000	124,000	9,600	[3] 1,407,000	215,000
Whale products	3,495,000	336,000					3,495,000	336,000
Oil, sperm	[4] 2,913,000	218,000					[4] 2,913,000	218,000
Whalebone	30,000	89,000					30,000	89,000
Oil, whale	[5] 553,000	28,000					[5] 553,000	28,000
Lobster	2,455,000	307,000	914,000	120,000	217,000	33,000	1,324,000	154,000
Oysters	1,084,000	218,000					1,084,000	218,000
Market	[6] 868,000	203,000					[6] 868,000	203,000
Seed	[7] 216,000	15,000					[7] 216,000	15,000
Scallops	[8] 502,000	120,000					[8] 502,000	120,000
Cockles	[9] 130,000	34,000	41,000	11,000	69,000	17,000	[9] 21,000	6,100
Irish moss	737,000	25,000	7,500	300			730,000	25,000
Squid	1,837,000	20,000	132,000	2,400			1,705,000	17,000
Livers	605,000	6,900	283,000	3,300	310,000	3,400	12,000	100
Oil, cod	[10] 138,000	5,900	79,000	3,400	13,000	600	[10] 46,000	2,000
Sounds	73,000	3,100	8,800	600	64,000	2,500		
Crabs	122,000	2,600	6,300	200	116,000	2,300	400	(1)
Shrimp	5,800	1,300					5,800	1,300
All other	2,400	100	2,400	100				

[1] Less than 100 pounds.
[2] 34,000 bushels.
[3] 74,000 gallons.
[4] 388,000 gallons.
[5] 124,000 bushels.
[6] 31,000 bushels.
[7] 63,000 gallons.
[8] 13,000 bushels.
[9] 15,000 gallons.
[1] Less than $100.

TABLE 3.—MASSACHUSETTS—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Lines.		Seines.[1]		Gill nets.		Pound nets, trap nets, and weirs.		All other apparatus.[2]	
	Quantity (pounds).	Value	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	193,839,000	$5,497,000	149,523,000	$3,649,000	20,124,000	$754,000	14,585,000	$384,000	1,403,000	$30,000	8,204,000	$680,000
Fish:												
Alewives	829,000	9,600			779,000	9,000	25,000	400	24,000	100		
Bluefish	24,000	2,700	6,000	500	6,200	600	9,300	1,400	2,800	200		
Bonito	35,000	2,300	200	(3)					35,000	2,300		
Butterfish	29,000	1,800	300	(3)	7,400	600	3,200	100	18,000	1,100		
Cod, fresh	48,124,000	1,183,000	45,382,000	1,123,000	1,073,000	25,000	1,650,000	35,000	19,000	600		
Cod, salted	19,565,000	640,000	19,565,000	640,000								
Cusk, fresh	4,145,000	71,000	4,145,000	71,000								
Cusk, salted	64,000	1,300	64,000	1,300								
Eels	55,000	2,500	11,000	200	4,000	200					40,000	2,100
Flounders	3,402,000	66,000	818,000	10,000	327,000	5,500	55,000	1,100	61,000	1,200	2,141,000	48,000
Haddock, fresh	45,294,000	965,000	43,875,000	932,000	1,302,000	31,000	104,000	1,300	13,000	400		
Haddock, salted	973,000	21,000	973,000	21,000								
Hake, fresh	15,521,000	276,000	15,412,000	275,000	67,000	1,000	38,000	400	5,000	100		
Hake, salted	230,000	4,800	230,000	4,800								
Halibut, fresh	3,470,000	255,000	3,460,000	254,000	9,600	1,000						
Halibut, salted	643,000	53,000	643,000	53,000								
Halibut fins, salted	13,000	500	13,000	500								
Herring, fresh	10,078,000	138,000			5,159,000	43,000	4,593,000	92,000	326,000	3,100		
Herring, salted	5,616,000	106,000			346,000	4,500	5,271,000	102,000				
Mackerel, fresh	7,967,000	580,000	60,000	2,900	5,775,000	432,000	2,104,000	142,000	28,000	2,500		
Mackerel, salted	2,231,000	161,000			2,231,000	161,000						
Menhaden, fresh	253,000	1,000			253,000	1,300						
Menhaden, salted	5,000	200							5,000	200		
Pollack, fresh	15,144,000	241,000	12,066,000	206,000	2,373,000	29,000	547,000	6,100	138,000	2,400		
Pollack, salted	920,000	21,000	920,000	21,000								
Redfish, or rosefish	293,000	2,600	290,000	2,600	200	(3)		(3)				
Scup	308,000	11,000	166,000	6,000	800	(3)	13,000	400	128,000	4,700		
Sea bass	47,000	3,500	36,000	2,600					12,000	900		
Shad	371,000	9,800			352,000	9,100	2,000	100	16,000	600		
Silver hake, or whiting	578,000	4,400	131,000	500	4,000	(3)	125,000	1,300	318,000	2,600		
Skates	74,000	500	37,000	300	12,000	100					25,000	100
Squeteague, or weakfish	150,000	5,900	10,000	400			30,000	400	110,000	5,100		
Striped bass	2,100	200	2,100	200								
Swordfish	1,625,000	121,000									1,625,000	121,000
Tautog	24,000	900	24,000	900								
All other	408,000	4,700	364,000	4,100	32,000	400	9,200	100	2,200	200		
Livers	590,000	6,700	586,000	6,600			4,000	(3)				
Sounds	73,000	3,100	73,000	3,100								
Lobster	123,000	14,000									123,000	14,000
Turtles	1,300	(4)							100	(3)	1,200	(3)
Clams, hard	[5] 85,000	13,000									[5] 85,000	13,000
Clams, soft	[6] 10,000	800									[6] 10,000	800
Cockles	[7] 18,000	4,300									[7] 18,000	4,300
Oysters, market, from public areas	[8] 2,100	400									[8] 2,100	400
Oysters, market, from private areas	[9] 449,000	96,000									[9] 449,000	96,000
Oysters, seed, from private areas	[9] 18,000	1,000									[9] 18,000	1,000
Scallops	[10] 152,000	44,000									[10] 152,000	44,000
Squid	172,000	2,500			10,000	200			142,000	2,000	20,000	400
Whalebone	30,000	89,000									30,000	89,000
Oil, cod	[11] 138,000	5,900	[11] 138,000	5,900								
Oil, sperm	[12] 2,913,000	218,000									[12] 2,913,000	218,000
Oil, whale	[13] 553,000	28,000									[13] 553,000	28,000

[1] Includes otter trawls.
[2] Includes apparatus, with catch, as follows: Whaling apparatus, 3,495,000 pounds, valued at $336,000; dredges, tongs, etc., 716,000 pounds, valued at $155,000; harpoons, spears, etc., 1,656,000 pounds, valued at $122,000; beam trawls, 2,166,000 pounds, valued at $48,000; eel pots, 153,000 pounds, valued at $15,000; cockle nets and traps, 18,000 pounds, valued at $4,200; and fyke nets, 1,200 pounds, valued at $100.
[3] Less than $100.
[4] 1,900 bushels.
[5] 64,000 bushels.
[6] 19,000 gallons.
[7] 388,000 gallons.
[8] 11,000 bushels.
[9] 300 bushels.
[10] 2,500 bushels.
[11] 18,000 gallons.
[12] 74,000 gallons.
[13] 1,000 bushels.

TABLE 4.—MASSACHUSETTS—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound nets, trap nets, and weirs.		Dip nets.		Seines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	50,474,000	$1,598,000	12,365,000	$281,000	17,238,000	$236,000	6,660,000	$58,000	5,272,000	$51,000	300,000	$9,000	8,638,000	$962,000
Fish:														
Albacore, or horse mackerel	91,000	5,400			91,000	5,400								
Alewives, fresh	2,209,000	20,000			902,000	6,000	693,000	9,300	589,000	4,000			25,000	300
Alewives, salted	1,024,000	15,000			125,000	1,300	490,000	9,000	325,000	3,400			84,000	1,700
Bluefish	17,000	1,600	5,200	600	12,000	900								
Bonito	30,000	1,700			30,000	1,700								
Butterfish	39,000	1,800			39,000	1,800								
Cod, fresh	5,024,000	129,000	4,138,000	109,000	268,000	7,600			517,000	8,900	100,000	2,800		
Cod, salted	106,000	4,300	106,000	4,300										
Cunner	102,000	5,600	600	(1)	2,300	100							99,000	5,500
Cusk	58,000	900	58,000	900										
Eels	967,000	30,000	107,000	5,700	47,000	1,000			150,000	500			363,000	23,000
Flounders	3,722,000	81,000	2,287,000	51,000	555,000	11,000			15,000	200	56,000	1,500	809,000	18,000
Haddock	2,225,000	52,000	1,801,000	42,000	290,000	8,300			134,000	1,800				
Hake	957,000	13,000	550,000	9,400	402,000	3,400			200	(2)	5,000	100		
Halibut	19,000	1,700	19,000	1,700										
Herring, fresh	12,734,000	96,000			5,151,000	41,000	5,462,000	40,000	2,049,000	15,000	59,000	600	14,000	100
Herring, salted	73,000	700			60,000	500					13,000	200		
Ling	73,000	1,300	73,000	1,300										
Mackerel	255,000	19,000	5,400	300	205,000	16,000	500	(2)	200	(2)	44,000	3,500		
Perch, white	1,300	100	900	100					400	(2)				
Perch, yellow	19,000	1,000							19,000	1,000				
Pollack	3,942,000	48,000	1,662,000	23,000	819,000	13,000			1,445,000	12,000	18,000	300		
Scup	828,000	28,000	162,000	6,200	665,000	22,000								
Sea bass	67,000	5,000	41,000	3,200	26,000	1,800								
Shad	19,000	1,700			3,600	100			15,000	1,700				
Silver hake, or whiting	5,011,000	37,000	790,000	7,800	4,221,000	27,000								
Silversides	3,500	600							3,500	600				
Skates	19,000	200			14,000	200					5,000	100		
Smelt	16,000	2,500	13,000	2,200					3,200	300				
Squeteague, or weakfish	1,821,000	52,000	81,000	1,600	1,739,000	51,000			1,000	(2)				
Striped bass	3,000	600	800	(2)	200	(2)							2,000	500
Sturgeon	4,700	400			4,700	400								
Swordfish	17,000	900											17,000	900
Tautog	146,000	5,400	126,000	4,600	21,000	700								
Tomcod	7,000	200	5,000	100					2,000	100				
All other	205,000	3,700	197,000	3,600	7,800	(2)			300	(2)			500	(2)
Irish moss	737,000	25,000											737,000	25,000
Livers	15,000	200	15,000	200										
Crabs, hard	121,000	2,400					15,000	200					106,000	2,300
Crabs, soft	1,800	200											1,800	200
Lobster	2,332,000	294,000			200	(2)							2,332,000	294,000
Shrimp	5,800	1,300					400	100	5,400	1,200				
Clams, hard	[3]1,034,000	177,000											[3]1,034,000	177,000
Clams, razor	[4]24,000	3,600											[4]24,000	3,600
Clams, soft	[3]1,906,000	185,000											[3]1,906,000	185,000
Cockles	[5]112,000	29,000											[5]112,000	29,000
Mussels	[7]1,100	100											[7]1,100	100
Oysters, market, from public areas	[8]2,800	500											[8]2,800	500
Oysters, market, from private areas	[9]414,000	106,000											[9]414,000	106,000
Oysters, seed, from public areas	[10]43,000	3,100											[10]43,000	3,100
Oysters, seed, from private areas	[11]156,000	11,000											[11]156,000	11,000
Scallops	[12]349,000	76,000											[12]349,000	76,000
Squid	1,665,000	17,000	121,000	2,200	1,538,000	15,000							5,700	100

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 4,647,000 pounds, valued at $386,000; eel pots, 2,678,000 pounds, valued at $310,000; cockle nets and traps, 60,000 pounds, valued at $17,000; beam trawls, 727,000 pounds, valued at $16,000; harpoons, spears, etc., 111,000 pounds, valued at $7,800; cunner nets and traps, 100,000 pounds, valued at $5,500; fyke nets, 50,000 pounds, valued at $2,100; cast nets, 109,000 pounds, valued at $2,000; flounder dredges, 80,000 pounds, valued at $2,000; bag nets, 2,000 pounds, valued at $500; and minor apparatus, 75,000 pounds, valued at $14,000.

[2] Less than $100.
[3] 129,000 bushels.
[4] 2,400 bushels.
[5] 191,000 bushels.
[6] 11,000 bushels.
[7] 100 bushels.
[8] 400 bushels.
[9] 39,000 bushels.
[10] 6,200 bushels.
[11] 22,000 bushels.
[12] 44,000 gallons.

TABLE 5.—MASSACHUSETTS—PRODUCTS OF VESSEL FISHERIES, BY COUNTY DISTRICTS: 1908.

SPECIES.	TOTAL.		ESSEX COUNTY.		SUFFOLK COUNTY.		ALL OTHER COUNTIES.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	193,839,000	$5,497,000	91,160,000	$2,604,000	67,269,000	$1,583,000	35,411,000	$1,310,000
Fish	188,512,000	4,971,000	90,741,000	2,595,000	66,864,000	1,572,000	30,907,000	804,000
Cod	67,689,000	1,822,000	36,262,000	1,041,000	21,926,000	521,000	9,501,000	260,000
Haddock	46,268,000	985,000	14,317,000	309,000	24,216,000	520,000	7,734,000	166,000
Mackerel	10,186,000	742,000	6,446,000	481,000	2,017,000	147,000	1,735,000	114,000
Halibut	4,126,000	309,000	3,230,000	229,000	682,000	62,000	213,000	18,000
Hake	15,751,000	281,000	3,999,000	71,000	10,254,000	185,000	1,498,000	25,000
Pollack	16,064,000	265,000	9,914,000	152,000	3,081,000	57,000	3,069,000	57,000
Herring	15,684,000	245,000	13,075,000	216,000	1,585,000	16,000	1,034,000	12,000
Swordfish	1,025,000	121,000	788,000	60,000	270,000	24,000	567,000	37,000
Cusk	4,209,000	72,000	1,801,000	32,000	2,029,000	34,000	379,000	6,400
Flounders	3,402,000	66,000	137,000	1,000	387,000	3,500	2,878,000	61,000
Scup	308,000	11,000	2,800	100			305,000	11,000
Shad	371,000	9,800	304,000	7,800	10,000	300	56,000	1,700
Alewives	829,000	9,600	25,000	200			804,000	9,400
Squeteague, or weakfish	150,000	5,900					150,000	5,900
Silver hake, or whiting	578,000	4,400	148,000	600			430,000	3,800
Sea bass	47,000	3,500					47,000	3,500
Bluefish	24,000	2,700	500	(1)			24,000	2,700
Redfish, or rosefish	293,000	2,600	152,000	1,500	139,000	1,100	2,000	(1)
Eels	55,000	2,500	600	(1)			54,000	2,500
Bonito	35,000	2,300					35,000	2,300
Butterfish	29,000	1,800	1,400	100	6,900	600	20,000	1,100
Menhaden	258,000	1,400	3,300	(1)			255,000	1,400
All other	508,000	6,400	133,000	1,600	259,000	2,400	116,000	2,400
Whale products	3,495,000	336,000					3,495,000	336,000
Oil, sperm	[2]2,913,000	218,000					[2]2,913,000	218,000
Whalebone	30,000	89,000					30,000	89,000
Oil, whale	[3]553,000	28,000					[3]553,000	28,000
Oysters	468,000	97,000					468,000	97,000
Market	[4]451,000	96,000					[4]451,000	96,000
Seed	[5]18,000	1,000					[5]18,000	1,000
Scallops	[6]152,000	44,000					[6]152,000	44,000
Lobster	123,000	14,000	8,500	1,300			115,000	12,000
Clams	[7]95,000	14,000					[7]95,000	14,000
Livers	290,000	6,700	280,000	3,300	310,000	3,400		
Oil, cod	[8]138,000	5,900	79,000	3,400	13,000	600	46,000	2,000
Cockles	[9]18,000	4,300			[9]18,000	4,300		
Sounds	73,000	3,100	8,800	600	64,000	2,600		
Squid	172,000	2,500	41,000	800			131,000	1,800
All other	1,300	(1)	1,300	(1)				

[1] Less than $100.
[2] 388,000 gallons.
[3] 74,000 gallons.
[4] 64,000 bushels.
[5] 2,500 bushels.
[6] 19,000 gallons.
[7] 12,000 bushels.
[8] 18,000 gallons.
[9] 1,800 bushels.

TABLE 6.—MASSACHUSETTS—PRODUCTS OF SHORE AND BOAT FISHERIES, BY COUNTY DISTRICTS: 1908.

SPECIES.	TOTAL.		ESSEX COUNTY.		SUFFOLK COUNTY.		ALL OTHER COUNTIES.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	50,474,000	$1,598,000	14,847,000	$426,000	8,761,000	$166,000	26,866,000	$1,006,000
Fish	41,554,000	666,000	12,264,000	141,000	8,253,000	108,000	21,037,000	417,000
Cod	5,130,000	133,000	2,076,000	46,000	1,065,000	28,000	1,988,000	59,000
Herring	12,807,000	97,000	4,267,000	36,000	4,856,000	30,000	3,684,000	31,000
Flounders	3,722,000	81,000	201,000	3,300	1,007,000	25,000	2,513,000	52,000
Haddock	2,225,000	52,000	453,000	9,100	295,000	7,400	1,477,000	36,000
Squeteague, or weakfish	1,821,000	52,000					1,821,000	52,000
Pollack	3,942,000	48,000	2,560,000	24,000	197,000	2,700	1,185,000	21,000
Alewives	3,253,000	35,000	517,000	3,100			2,736,000	32,000
Silver hake, or whiting	5,011,000	35,000	1,355,000	3,400	712,000	7,100	2,944,000	24,000
Eels	667,000	30,000	202,000	3,600	91,000	5,500	374,000	21,000
Scup	828,000	28,000	200	(1)			827,000	28,000
Mackerel	255,000	19,000	28,000	2,300			227,000	17,000
Hake	957,000	13,000	357,000	2,400			600,000	11,000
Cunner	102,000	5,600	73,000	4,000	29,000	1,600		
Tautog	146,000	5,400	800	(1)			145,000	5,400
Albacore, or horse mackerel	91,000	5,400	8,800	300			82,000	5,100
Sea bass	67,000	5,000	(2)	(1)			67,000	5,000
Smelt	16,000	2,500	10,000	1,800	500	100	5,000	700
Butterfish	39,000	1,800	3,600	200			35,000	1,600
Shad	19,000	1,700	3,300	100			15,000	1,700
Halibut	19,000	1,700					19,000	1,700
Bonito	30,000	1,700	200	(1)			30,000	1,700
Bluefish	17,000	1,600	400	(1)			17,000	1,600
Ling	73,000	1,300					73,000	1,300
Perch, yellow	19,000	1,000					19,000	1,000
All other	319,000	7,600	147,000	2,700	400	(1)	172,000	4,900
Clams	[3] 2,965,000	365,000	1,529,000	153,000	124,000	9,600	[3] 1,312,000	202,000
Lobster	2,332,000	294,000	905,000	118,000	217,000	33,000	1,210,000	142,000
Oysters	616,000	121,000					616,000	121,000
Market	[4] 417,000	107,000					[4] 417,000	107,000
Seed	[5] 199,000	14,000					[5] 199,000	14,000
Scallops	[6] 349,000	76,000					[6] 349,000	76,000
Cockles	[7] 112,000	29,000	41,000	11,000	51,000	13,000	[7] 21,000	5,100
Irish moss	737,000	25,000	7,500	300			730,000	25,000
Squid	1,665,000	17,000	91,000	1,600			1,574,000	16,000
Crabs	123,000	2,600	6,300	200	116,000	2,300	400	(1)
Shrimp	5,800	1,300					5,800	1,300
All other	16,000	200	4,300	100			12,000	100

[1] Less than $100. [2] Less than 100 pounds. [3] 371,000 bushels. [4] 60,000 bushels. 28,000 bushels. [5] 44,000 gallons. [7] 11,000 gallons.

TABLE 7.—MASSACHUSETTS—FISHERY PRODUCTS: 1889, 1898, 1902, 1905, AND 1908.

SPECIES.	1908		1905		1902		1898		1889		PER CENT DISTRIBUTION OF VALUE.				
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	1908	1905	1902	1898	1889
Total	244,313,000	$7,095,000	255,654,000	$7,025,000	230,646,000	$6,482,000	202,258,000	$4,464,000	299,218,000	$5,858,000	100	100	100	100	100
Cod	72,819,000	1,955,000	62,263,000	1,689,000	69,521,000	1,773,000	71,315,000	1,407,000	76,342,000	2,013,000	28	24	27	32	34
Haddock	48,492,000	1,038,000	67,054,000	1,069,000	39,220,000	802,000	35,582,000	420,000	35,305,000	602,000	15	15	12	9	10
Mackerel	10,453,000	761,000	14,104,000	966,000	17,624,000	981,000	6,763,000	362,000	6,667,000	585,000	11	14	15	8	10
Clams	[1] 2,060,000	378,000	2,585,000	500,000	3,134,000	228,000	1,981,000	153,000	2,654,000	150,000	5	7	4	3	2
Herring	28,501,000	342,000	18,354,000	332,000	29,235,000	401,000	22,363,000	333,000	9,931,000	91,000	5	5	6	7	2
Pollack	20,006,000	313,000	25,486,000	268,000	12,176,000	118,000	7,084,000	43,000	5,069,000	55,000	4	4	2	1	1
Halibut	4,145,000	310,000	3,513,000	218,000	12,156,000	649,000	10,523,000	547,000	9,888,000	661,000	4	3	10	12	11
Lobster	2,455,000	307,000	1,283,000	176,000	1,096,000	175,000	1,694,000	148,000	3,354,000	148,000	4	3	3	3	3
Hake	16,708,000	294,000	20,701,000	258,000	14,358,000	191,000	21,332,000	164,000	6,354,000	68,000	4	4	3	4	1
Oil, whale and sperm	[2] 3,466,000	247,000	3,934,000	247,000	5,137,000	293,000	3,119,000	199,000	6,172,000	489,000	3	4	5	5	8
Oysters	[3] 1,084,000	218,000	996,000	222,000	724,000	134,000	709,000	156,000	259,000	66,000	3	3	2	4	1
All other	33,123,000	932,000	34,409,000	1,030,000	25,666,000	677,000	19,852,000	532,000	137,203,000	931,000	13	15	10	12	16

[1] 382,000 bushels. [2] 46,000 gallons. [3] 155,000 bushels.

MICHIGAN.

Michigan is foremost among the Great Lakes states in value of fishery products. All the lakes, with the exception of Lake Ontario, touch upon the state, but Lakes Michigan and Huron contributed the larger percentage of the state yield.

The following statement presents a summary of the chief statistics for the fisheries of Michigan in 1908:

Number of persons employed	3,472
Capital:	
Vessels and boats, including outfit	$594,000
Apparatus of capture	821,000
Shore and accessory property and cash	599,000
Value of products	1,473,000

Comparison with previous canvasses.—Since 1890 a considerable increase is manifest in the quantity and value of products. No statistics of comparative value are at hand for Michigan for years previous to 1890. With regard to the Great Lakes the Bureau of Fisheries stated, as a result of the investigation of 1885, that, "considered as a whole, the fisheries were more prolific in 1885 than they had ever previously been."

The statistics for the fisheries of the Great Lakes district in 1885 are, on the whole, very similar to those of 1890 and show figures very much in excess of those for 1880. Since signs of growth appear in the early statistics of the fisheries of this region, it may be inferred that the increase during the past 18 years indicates a movement extending over a much longer period. Reasons for this increase, as suggested in 1885, include the increase in the number of persons engaged in the work, the use of a larger number of nets and other apparatus of capture, and more extensive artificial propagation. In addition to these forces, all of which were active in 1885, favorable legislation has fostered the growth of the industry since 1890.

Michigan shares so largely in the catch from all but one of these lakes that what is true of the fisheries of the Great Lakes region in general may be considered equally true of the Michigan fisheries. The following comparative summary shows the principal statistics for the various canvasses from 1890 to 1908, inclusive:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	3,294	$1,415,000	$594,000	$821,000	38,302,000	$1,473,000
1903	3,348	962,000	394,000	568,000	35,699,000	1,224,000
1899	2,968	824,000	266,000	524,000	32,369,000	894,000
1890	2,943	836,000	278,000	558,000	32,572,000	934,000

Persons employed.—Statistics of the persons employed in the fisheries of Michigan in 1908 are given in the following table:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	3,472	[1] 1,698	8	1,766	$533,000	$6,600	[2] $527,000
Vessel fisheries	501	117	5	379	174,000	3,900	170,000
Transporting vessels	27	7		20	5,700		5,700
Shore and boat fisheries	2,766	1,574	3	1,189	289,000	2,700	286,000
Shoresmen	178			178	64,000		64,000
Lake Michigan district	1,268	553	1	714	236,000	1,200	235,000
Vessel fisheries	311	98	1	212	100,000	1,200	99,000
Transporting vessels	5	1		4	900		900
Shore and boat fisheries	873	454		419	103,000		103,000
Shoresmen	79			79	32,000		32,000
Lake Huron district	1,382	684	6	692	196,000	5,200	191,000
Vessel fisheries	131	14	3	114	51,000	2,500	49,000
Transporting vessels	22	6		16	4,900		4,900
Shore and boat fisheries	1,148	664	3	481	115,000	2,700	112,000
Shoresmen	81			81	25,000		25,000
Lake Superior district	371	205	1	165	57,000	200	57,000
Vessel fisheries	59	5	1	53	23,000	200	23,000
Shore and boat fisheries	297	200		97	27,000		27,000
Shoresmen	15			15	7,000		7,000
Lake Erie district (shore and boat fisheries)	230	67		163	34,000		34,000
Lake St. Clair	221	189		32	11,000		11,000
Shore and boat fisheries	218	189		29	10,000		10,000
Shoresmen	3			3	300		300

[1] Exclusive of 52 proprietors not fishing. [2] Includes provisions furnished to the value of $47,000.

The state had vessel fisheries in three of the Great Lakes—Lakes Michigan, Superior, and Huron—and 634 vessel fishermen and shoresmen were employed in connection with such fisheries. The number of shore and boat fishermen and their employees, including shoresmen, amounted to 2,811. Although Lake Michigan had a product about one-third larger than that of Lake Huron, the persons employed in fishing numbered 114 less.

Equipment and other capital.—Statistics concerning the investment in vessels, boats, and apparatus of capture, and the other capital employed in the fisheries of the state, are given in the following table, for the state and for the several lakes and their tributary waters:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.					
	Total.	Lake Michigan district.	Lake Huron district.	Lake Superior district.	Lake Erie district.	Lake St. Clair district.
Total	$2,013,000	$897,000	$733,000	$226,000	$111,000	$46,000
Vessels, including outfit	327,000	196,000	89,000	41,000	.....	.....
Fishing	306,000	192,000	72,000	41,000	.....	.....
Vessels	242,000	151,000	55,000	36,000	.....	.....
Outfit	64,000	41,000	17,000	5,800	.....	.....
Transporting	22,000	4,100	17,000	.....	.....	.....
Vessels	20,000	3,800	16,000	.....	.....	.....
Outfit	1,800	400	1,500	.....	.....	.....
Boats	267,000	106,000	96,000	35,000	19,000	10,000
Steam and motor	217,000	97,000	71,000	29,000	14,000	5,900
Sail	24,000	3,100	18,000	3,200	.....	.....
Row	21,000	5,500	5,100	3,200	2,700	4,200
Other	5,200	400	1,700	200	2,900	.....
Apparatus of capture	821,000	377,000	281,000	105,000	51,000	8,000
Vessel fisheries	319,000	192,000	81,000	46,000	.....	.....
Shore and boat fisheries	502,000	185,000	200,000	58,000	51,000	8,000
Shore and accessory property	484,000	148,000	235,000	36,000	41,000	25,000
Cash	114,000	70,000	32,000	8,200	600	3,600

The statement at top of next column gives detailed statistics of the number and tonnage of vessels and the number of boats.

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.					
	Total.	Lake Michigan district.	Lake Huron district.	Lake Superior district.	Lake Erie district.	Lake St. Clair district.
Vessels:						
Fishing—						
Number	97	72	17	8	.....	.....
Tonnage	1,407	879	323	205	.....	.....
Transporting—						
Number	13	2	11	.....	.....	.....
Tonnage	73	17	56	.....	.....	.....
Boats, number	1,647	540	574	210	167	156
Steam and motor	445	201	133	62	36	13
Sail	210	47	128	35	.....	.....
Row	879	284	226	112	114	143
Other	113	8	87	1	17	.....

The shore and accessory property of the vessel fisheries was valued at $137,000, that of the shore and boat fisheries at $344,000, and that of transporting vessels at $3,500. Of the cash capital, $67,000 is credited to the vessel fisheries, $46,000 to the shore and boat fisheries, and $600 to transporting vessels. The total investment comprised $829,000 invested in vessel fisheries, $1,159,000 in shore and boat fisheries, and $26,000 in transporting vessels. No sailing vessels were used, and the number of sailboats was comparatively small.

Gill nets and pound and trap nets were the principal kinds of apparatus of capture. All of these nets were used in both classes of fisheries, but gill nets were used in vessel fisheries almost to the exclusion of other apparatus, while pound and trap nets were more generally used in shore and boat fisheries. The same conditions were apparent at all previous canvasses. On Lake Superior, however, gill nets were used in much greater numbers than pound and trap nets in shore and boat fisheries as well as in vessel fisheries.

The number of the various kinds of apparatus reported was as follows:

KIND.	APPARATUS OF CAPTURE: 1908.							
	Total.	Distributed by districts.					Distributed by class of fisheries.	
		Lake Michigan district.	Lake Huron district.	Lake Superior district.	Lake Erie district.	Lake St. Clair district.	Vessel fisheries.	Shore and boat fisheries.
Fyke and hoop nets	1,069	.....	694	8	361	6	.....	1,069
Gill nets	55,673	37,683	10,341	7,642	.....	2	36,783	18,890
Harpoons, spears, etc	553	.....	208	.....	.....	345	.....	553
Pound and trap nets	2,232	786	1,116	93	237	.....	35	2,197
Seines	120	3	38	5	50	24	1	119
Traps, muskrat	130	.....	.....	.....	130	.....	.....	130

Products, by species.—Table 1, on page 170, gives the weight and value of the product of the Michigan fisheries, by species and apparatus of capture for 1908.

Twenty-three species were taken in the fisheries of Michigan. Lake trout ranked first, the value of this species, fresh and salted, forming 29 per cent of the value of all products of the state. Whitefish of all kinds, fresh, smoked, and salted, including the longjaw and Menominee varieties and also whitefish caviar, stood next to lake trout in importance, its value forming 23 per cent of the value of all fishery products from the state; whitefish alone, fresh, salted, and smoked, contributed 20 per cent of the value of all products. Lake herring were taken in greater quantities than trout and whitefish combined. The weight of this species formed 39 per cent of the weight of all fishery products, but its value formed only 21 per cent of the total value. Suckers, and the various pike perches combined, ranked next in value. The value of these five species formed 87 per cent of the value of the entire state fishery product.

Products, by fishing grounds.—Tables 2 to 6, on pages 170 to 172, give, by species and apparatus of capture, the quantities and values of the products of the Michigan fisheries in 1908 for Lakes Michigan, Huron, Superior, Erie, and St. Clair, respectively. The lakes ranked in the order named with respect to value of products. The following tabular statement gives the value of the chief species, for the state and for the respective lakes, ranked according to the value for the state as a whole:

SPECIES.	VALUE OF PRODUCTS: 1908.					
	Total.	Lake Michigan district.	Lake Huron district.	Lake Superior district.	Lake Erie district.	Lake St. Clair district.
Total	$1,473,000	$661,000	$486,000	$201,000	$93,000	$32,000
Fish	1,472,000	660,000	486,000	201,000	93,000	32,000
Trout	424,000	266,000	89,000	129,000	.....	.....
Herring, lake	394,000	206,000	72,000	26,000	100	.....
Whitefish	297,000	183,000	60,000	38,000	16,000	(1)
Suckers	117,000	33,000	76,000	2,900	4,500	700
Pike perch (wall-eyed pike)	93,000	4,500	76,000	800	.....	12,000
Perch, yellow	73,000	12,000	53,000	.....	4,000	3,700
Carp, German	55,000	100	11,000	.....	33,000	11,000
Whitefish, longjaw	36,000	3,000	30,000	3,000	.....	.....
Pike and pickerel	32,000	1,800	4,200	1,000	24,000	1,400
Catfish and bullheads	12,000	200	7,500	.....	3,600	500
Sturgeon and caviar	8,000	3,500	1,400	400	1,000	1,800
Whitefish, Menominee	6,200	5,600	700	.....	.....	.....
All other	14,000	1,700	4,000	.....	6,500	1,500
All other	1,200	[2] 800	.....	.....	[3] 400	.....

[1] Less than $100. [2] Mussels. [3] Muskrat skins.

The fisheries in Lake Michigan furnished 45 per cent both of the weight and of the value of the entire Michigan product. The yield of Lake Huron was next to that of Lake Michigan, contributing 34 per cent of the weight and 33 per cent of the value of the catch of the entire state. Of the eight species taken in Lake Superior, trout was the most important, representing 47 per cent of the weight and 64 per cent of the value of the products of this lake. A similar preponderance of trout appeared in both the vessel fisheries and the shore and boat fisheries. Whitefish and herring made up the bulk of the remaining product in both classes of the Lake Superior fisheries.

Notwithstanding the fact that the Lake Erie fisheries of Michigan were all of the shore and boat class, 15 species of fish were taken. The catch of this lake represented only 8 per cent of the quantity and 6 per cent of the value of the state product. No lake trout were reported as taken in the fisheries of Lake Erie and the lake herring taken formed only a negligible proportion of the product. The German carp, a minor species in the state as a whole, was the most important product of this lake, the Lake Erie catch of this species representing over one-half of the quantity and over one-third of the value of the total catch of Lake Erie for Michigan, and 69 per cent of the weight and 60 per cent of the value of the catch of this species in the state.

Lake St. Clair supplied about 2 per cent of the Michigan fishery product. The leading species was wall-eyed pike. German carp ranked next in value. These two species contributed 72 per cent of the weight and 71 per cent of the value of the total product of this lake.

Products, by class of fisheries.—Tables 7 and 8, on pages 172 and 173, give the products taken in the vessel fisheries and the shore and boat fisheries of Michigan, respectively, by species and by apparatus of capture. The following tabular statement gives the value of the products, by class of fisheries and by species, ranked according to the value reported for the state as a whole:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,473,000	$516,000	$957,000
Fish	1,472,000	516,000	956,000
Trout	424,000	266,000	158,000
Herring, lake	394,000	102,000	292,000
Whitefish	297,000	110,000	187,000
Suckers	117,000	1,900	115,000
Pike perch (wall-eyed pike)	93,000	800	93,000
Perch, yellow	73,000	900	72,000
Carp, German	55,000	(1)	55,000
Whitefish, longjaw	36,000	33,000	3,100
Pike and pickerel	32,000	400	32,000
Catfish and bullheads	12,000	100	12,000
Sturgeon and caviar	8,000	700	7,300
Whitefish, Menominee	6,200	(1)	6,200
All other	14,000	800	13,000
Mussels and muskrat skins	1,200	.....	1,200

[1] Less than $100.

Products, by apparatus of capture.—Pound nets and gill nets both took large shares of the total catch. The larger quantity is reported for pound nets, but gill nets are credited with the greater value of the product. Combined, these two kinds of apparatus took a quantity representing 85 per cent of the total weight and 86 per cent of the total value.

The value of the catch, by kinds of apparatus, for the state and the respective lake districts, is given in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.					
	Total.	Lake Michigan district.	Lake Huron district.	Lake Superior district.	Lake Erie district.	Lake St. Clair district.
Total	$1,473,000	$661,000	$486,000	$201,000	$93,000	$32,000
Gill nets	715,000	420,000	140,000	156,000	.....	(1)
Pound nets, trap nets, and weirs	550,000	224,000	269,000	29,000	29,000	.....
Fyke and hoop nets	94,000	.....	58,000	100	36,000	100
Seines	55,000	1,300	13,000	400	27,000	13,000
Lines	52,000	15,000	3,200	16,000	700	17,000
All other	7,000	800	3,700	.....	400	2,100

[1] Less than $100.

In Lake Superior gill nets were most important by a wide margin in both classes of fisheries and they were also the leading apparatus of capture in Lake Michigan, but in Lake Erie they were not used, and in Lake St. Clair they were used but little. Pound and trap nets, which were the most important apparatus of capture

on Lake Huron, owe their prominence in part to their wide adaptability. Fyke and hoop nets, seines, and lines were next in order. Lake trout contributed more than half of the value of the gill-net catch, and whitefish and herring furnished the greater part of the remainder; while lake herring and whitefish composed more than one-half of the pound and trap net catch. Of the products taken with fyke and hoop nets, suckers were the leading species, but although the quantity of this species taken was more than double that of any other, except German carp, it contributed only a little more than a third of the value of the total product taken by this class of nets. Fyke and hoop nets were used to a greater extent in the shore and boat fisheries of Lake Huron than elsewhere, but they were of the greatest relative importance on Lake Erie. In Lakes Erie and St. Clair, as a result of the prevalence of carp, seines were among the most important forms of apparatus of capture used. Carp contributed 68 per cent of the value of the seine capture of the state. Of the value of the total line catch, 60 per cent represented lake trout. Every district and class of fisheries, except the vessel fisheries of Lake Huron, reported products taken with lines.

Lake trout.—Three species—lake trout, whitefish, and lake herring—made up approximately 70 per cent of the fishery product of Michigan. Lake trout furnished 29 per cent of the value, though only 18 per cent of the weight, of the state fishery product. About 4 per cent of the catch was salted, but the general practice in regard to this fish was to market it fresh.

The following tabular statement shows the quantity and value of the catch reported at the various canvasses from 1890 to 1908, inclusive. Since 1903 a heavy decrease in quantity has taken place, but prices have been such as to keep the value very nearly the same.

YEAR.	LAKE-TROUT PRODUCT.	
	Quantity (pounds).	Value.
1908	6,798,000	$424,000
1903	9,688,000	426,000
1899	6,691,000	260,000
1890	8,543,000	310,000

Whitefish.—This product ranked second in value of catch among all fishery products of Michigan. Two species in addition to the common species were taken, and a small amount of caviar was made from the eggs. The totals given in the tabular statement presented below are for all of these species combined, including caviar. The great bulk of the catch was sold fresh, but a small percentage was salted and a very small amount smoked. The quantity taken by the shore and boat fisheries was about a fifth larger than that taken by the vessel fisheries, and brought slightly higher prices. This fish was taken in each of the five lakes, but considerably more than half came from Lake Michigan. Lakes Erie and St. Clair contributed but small proportions of the total. Whitefish has experienced a marked recovery from the downward movement apparent in 1899 and 1903, but the yield in 1908 was still far below that in 1890 with respect to quantity, although the demand made its value greater than the value reported for any previous year for which statistics are available. Comparative figures for the various canvasses beginning with 1890 are given below:

YEAR.	WHITEFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	4,775,000	$339,000
1903	5,825,000	271,000
1899	4,016,000	173,000
1890	7,725,000	312,000

Lake herring.—This fish was taken in greater quantities than lake trout and whitefish combined, but its value was less than that of either of these species. Lake herring represented 39 per cent of the weight and 21 per cent of the value of the total product. Nearly two-thirds of the catch was salted, practically all of the salting being done by the shore and boat fishermen, who in 1908 treated over three-fourths of their lake-herring product in this way. This fish was not taken in Lake St. Clair, nor in more than a negligible quantity in Lake Erie.

The total lake-herring catch in 1908 exceeded in quantity and value that of any previous year for which statistics are available. The figures for the more recent canvasses are as follows:

YEAR.	LAKE-HERRING PRODUCT.	
	Quantity (pounds).	Value.
1908	14,787,000	$304,000
1903	9,933,000	220,000
1899	12,986,000	248,000
1890	6,394,000	87,000

Suckers.—This species contributed 12 per cent of the weight and 8 per cent of the value of the state fishery product, the catch in 1908 being scarcely inferior to that of whitefish in weight, but only about one-third as valuable. Only a small portion of the total product of this species was salted, and almost all of the quantity so treated came from Lake Michigan. Nearly seven-tenths of the catch was made by pound and trap nets, and the bulk of the remainder was taken by fyke and hoop nets. This species has shown a steady increase both in the weight and in the value of the yield, as indicated by the following tabular statement:

YEAR.	SUCKER PRODUCT.	
	Quantity (pounds).	Value.
1908	4,467,000	$117,000
1903	4,087,000	85,000
1899	1,775,000	30,000

Pike perches.—Under this head are included the blue pike, the sauger pike, and the wall-eyed pike, which is many times more important than the two first-named species in the catch of this state. The blue pike was taken only in the vessel fisheries, while the others were taken almost exclusively in the shore and boat fisheries. All of the blue-pike product was from Lake Michigan, and all of the salted sauger pike came from the vessel fisheries of the same district. Most of the catch of fresh sauger pike was from Lake Erie. About four-fifths of the wall-eyed pike came from Lake Huron, while most of the remainder was from Lake St. Clair, of which this is the leading product, measured by value. In Lake Huron this species was taken chiefly by pound and trap nets and in Lake St. Clair chiefly by lines. A greater quantity of sauger pike was taken with fyke and hoop nets than with pound and trap nets, the only other class of apparatus for which product of any importance was reported. For the capture of blue pike gill nets were used exclusively. The yield of pike perch was less in 1908 than in any of the years for which a canvass has been made, but its value was exceeded only by that of the catch of 1903. Figures for the various canvasses are presented in the following tabular statement:

YEAR.	PIKE-PERCH PRODUCT.	
	Quantity (pounds).	Value.
1908	1,194,000	$98,000
1903	2,318,000	127,000
1899	1,989,000	92,000
1890	[1] 2,690,000	[1] 87,000

[1] Includes pike.

Yellow perch.—This species contributed about 5 per cent of the value of the state products, and was taken almost wholly by the shore and boat fisheries. Lake Huron furnished almost three-fourths of the total value of the yellow perch caught and Lake Michigan the greater part of the remainder. Over three-fourths of the Lake Huron product was taken with pound and trap nets, and fyke and hoop nets ranked next in importance among the kinds of apparatus used. In Lake Michigan gill nets took nearly as great a quantity as pound and trap nets, and the catch was of greater value; all but a small part of the catch was taken by these two forms of apparatus. The yellow-perch catch has increased in value steadily, but the quantity taken in 1908, though greater than that taken in 1903, was much less than the catch in 1899 or 1890.

YEAR.	YELLOW-PERCH PRODUCT.	
	Quantity (pounds).	Value.
1908	2,378,000	$73,000
1903	2,257,000	53,000
1899	3,137,000	41,000
1890	3,029,000	40,000

German carp.—This species is mentioned separately because it has risen from an inferior rank to one of prominence since the last canvass. Though contributing only 6 per cent of the quantity and 3 per cent of the value of the state product in 1908, German carp ranked seventh in value and the quantity caught was greater than that of yellow perch. It was not taken in Lake Superior, nor to any extent in Lake Michigan, but it contributed over one-half of the weight and over one-third of the value of the total fishery product reported for Lake Erie, to which lake over two-thirds of the weight of the Michigan capture of carp is credited. The shore and boat fisheries of Lake Huron reported about one-half of the weight and over one-half of the value of the product not taken in Lake Erie, while Lake St. Clair reported most of the remainder.

YEAR.	GERMAN-CARP PRODUCT.	
	Quantity (pounds).	Value.
1908	2,459,000	$55,000
1903	580,000	10,000
1899	218,000	4,300

TABLE 1.—MICHIGAN—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Pound nets, trap nets, and weirs.		Fyke and hoop nets.		Seines.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	38,302,000	$1,473,000	13,240,000	$715,000	19,299,000	$550,000	2,556,000	$94,000	2,051,000	$55,000	855,000	$52,000	301,000	$7,000
Fish:														
Black bass	2,300	400	100	(2)	200	(2)					2,000	400		
Carp, German	2,459,000	55,000	300	(2)	241,000	4,500	491,000	13,000	1,097,000	37,000	8,000	200	22,000	300
Catfish and bullheads	270,000	12,000	7,100	300	134,000	6,000	105,000	4,300	17,000	700	5,000	400	1,500	100
Dogfish, or bowfin	85,000	1,200			13,000	200	72,000	1,000					200	(2)
Drum, or sheepshead	186,000	1,800	1,700	(2)	90,000	900	94,000	900	400	(2)				
Herring, lake	14,787,000	304,000	3,840,000	133,000	10,930,000	170,000	2,400	100	3,400	100	11,000	500		
Ling, or lawyer	10,000	100	1,900	(2)	7,400	100	800	(2)			100	(2)		
Muskallunge	4,000	400			100	(2)			300	(2)			3,600	300
Perch, yellow	2,378,000	73,000	204,000	7,200	1,526,000	43,000	450,000	16,000	44,000	1,500	146,000	5,400	8,100	400
Pike and pickerel	478,000	32,000	9,400	300	221,000	15,000	207,000	15,000	16,000	1,100	6,300	300	18,000	600
Pike perch (blue pike)	27,000	700	27,000	700										
Pike perch (sauger)	109,000	3,500	400	(2)	44,000	1,300	64,000	2,300	200	(2)				
Pike perch (wall-eyed pike)	1,058,000	93,000	25,000	2,000	726,000	66,000	13,000	1,200	107,000	10,000	148,000	10,000	39,000	3,800
Rock bass	57,000	2,100			13,000	400	36,000	1,300	4,000	200	4,000	200		
Sturgeon	57,000	7,100	1,000	100	37,000	4,600	1,300	100	500	100	17,000	2,200		
Sturgeon caviar	1,200	900			1,100	800			100	(2)	100	100		
Suckers	4,467,000	117,000	266,000	7,900	3,101,000	72,000	950,000	34,000	149,000	3,200	2,000	100		
Sunfish	48,000	1,300	800	(2)	23,000	500	8,600	300	5,100	100	2,000	100	8,000	200
Trout	6,798,000	424,000	5,845,000	366,000	453,000	27,000	(2)	(2)	1,600	100	498,000	31,000		
White bass	37,000	1,800	700	(2)	9,200	400	26,000	1,300	600	(2)				
Whitefish	3,753,000	297,000	2,045,000	158,000	1,663,000	135,000	34,000	3,100	4,700	400	5,600	400		
Whitefish (longjaw)	870,000	36,000	861,000	36,000	9,700	300			100	(2)				
Whitefish (Menominee)	149,000	6,200	102,000	4,300	47,000	1,900			100	(2)				
Whitefish caviar	2,300	200	600	100	1,600	200								
All other	8,700	100			8,100	100	100	(2)	500	(2)				
Mussels	200,000	800											200,000	800
Skins, muskrat	300	400											300	400

[1] Includes apparatus, with catch, as follows: Harpoons, spears, etc., 100,000 pounds, valued at $5,800; crowfoot dredges, etc., 200,000 pounds, valued at $800; and muskrat traps, 300 pounds, valued at $400.
[2] Less than $100.
[3] Less than 100 pounds.

TABLE 2.—MICHIGAN—FISHERY PRODUCTS OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Gill nets.		Pound nets, trap nets, and weirs.		Lines.		Seines.		Crowfoot dredges, etc.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	17,044,000	$661,000	7,042,000	$420,000	9,526,000	$224,000	246,000	$15,000	31,000	$1,300	200,000	$800
Fish:												
Carp, German	3,800	100	300	(1)	3,500	100						
Catfish and bullheads	2,500	200	700	100	1,300	100			500	(1)		
Drum, or sheepshead	24,000	400	1,700	(1)	22,000	400						
Herring, lake, fresh	2,625,000	108,000	2,123,000	102,000	489,000	5,200	11,000	500	2,000	100		
Herring, lake, salted	6,479,000	98,000	12,000	400	6,467,000	97,000						
Ling, or lawyer	8,300	100	1,900	(1)	6,400	100	100	(1)				
Perch, yellow	348,000	12,000	140,000	5,400	143,000	4,600	59,000	1,900	6,600	300		
Pike and pickerel	21,000	1,800	1,700	100	19,000	1,700	300	(1)	(2)	(1)		
Pike perch (blue pike)	27,000	700	27,000	700								
Pike perch (wall-eyed pike)	52,000	4,500	1,600	100	50,000	4,400						
Sturgeon	21,000	2,800	600	100	20,000	2,700	(2)	(1)				
Sturgeon caviar	800	700			800	700						
Suckers, fresh	1,223,000	28,000	135,000	4,400	1,070,000	23,000	2,000	100	16,000	600		
Suckers, salted	216,000	4,600	67,000	1,900	145,000	2,600			5,000	100		
Trout, fresh	3,214,000	203,000	2,873,000	180,000	172,000	10,000	169,000	12,000	1,000	100		
Trout, salted	70,000	3,600	65,000	3,400	4,700	200						
White bass	2,000	100	700	(1)	1,300	100						
Whitefish, fresh	2,172,000	174,000	1,403,000	112,000	763,000	62,000	5,600	400	(2)	(1)		
Whitefish, salted	137,000	8,600	35,000	2,200	102,000	6,400						
Whitefish (longjaw), fresh	68,000	3,000	63,000	2,800	4,200	200						
Whitefish (Menominee), fresh	36,000	1,300	33,000	1,200	3,000	100						
Whitefish (Menominee), salted	91,000	4,200	54,000	2,600	37,000	1,600						
Whitefish caviar	2,100	200	600	100	1,500	100						
All other	1,300	100	400	(1)	900	100						
Mussels	200,000	800									200,000	800

[1] Less than $100.
[2] Less than 100 pounds.

TABLE 3.—MICHIGAN—FISHERY PRODUCTS OF LAKE HURON DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound nets, trap nets, and weirs.		Gill nets.		Fyke and hoop nets.		Seines.		Harpoons, spears, etc.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	12,932,000	$486,000	8,589,000	$269,000	2,468,000	$140,000	1,550,000	$58,000	264,000	$13,000	42,000	$3,700	50,000	$3,200
Carp, German	407,000	11,000	149,000	2,900	(1)	(2)	207,000	7,500	45,000	700	5,900	200		
Catfish and bullheads	174,000	7,500	118,000	5,300	6,300	200	33,000	1,600	10,000	400			600	(2)
Dogfish, or bowfin	82,000	1,200	13,000	200			69,000	1,000			200	(2)		
Drum, or sheepshead	8,100	100	8,100	100										
Herring, lake, fresh	1,239,000	21,000	1,121,000	16,000	115,000	4,800	1,900	(2)	1,400	(2)				
Herring, lake, salted	2,824,000	51,000	2,824,000	51,000										
Perch, yellow	1,805,000	53,000	1,362,000	37,000	64,000	1,800	342,000	13,000	32,000	1,000	100	(2)	5,000	200
Pike and pickerel	63,000	4,200	37,000	2,400	7,000	300	15,000	1,200	3,400	200				
Pike perch (sauger), fresh	3,500	100	3,100	100	100	(2)	200	(2)	200	(2)				
Pike perch (wall-eyed pike)	829,000	76,000	698,000	61,000	23,000	1,800	11,000	1,100	91,000	8,700	35,000	3,600		
Rock bass	48,000	1,700	13,000	400			36,000	1,300						
Sturgeon	9,900	1,200	9,400	1,200	400	100			(1)	(2)				
Sturgeon caviar	300	100	300	100										
Suckers, fresh	2,566,000	76,000	1,645,000	42,000	53,000	1,300	789,000	31,000	80,000	1,600				
Suckers, salted	9,400	200	9,200	200	200	(2)								
Sunfish	34,000	900	23,000	500	800	(2)	8,500	300	1,100	(2)				
Trout, fresh	1,353,000	89,000	113,000	6,800	1,195,000	79,000	(1)	(2)	100	(2)			44,000	3,000
Trout, salted	5,800	200	3,900	200	2,000	100								
Whitefish, fresh	693,000	58,000	447,000	39,000	245,000	19,000	200	(2)	200	(2)				
Whitefish, salted	13,000	600	13,000	600	100	(2)								
Whitefish, smoked	13,000	1,200			13,000	1,200								
Whitefish (longjaw), fresh	728,000	30,000	700	(2)	727,000	30,000								
Whitefish (Menominee), fresh	19,000	600	3,900	100	15,000	400			100	(2)				
Whitefish (Menominee), salted	3,000	100	2,700	100	300	(2)								
Whitefish caviar	100	(2)	100	(2)										
All other	1,900	100	1,000	(2)			900	(2)						

[1] Less than 100 pounds.
[2] Less than $100.

TABLE 4.—MICHIGAN—FISHERY PRODUCTS OF LAKE SUPERIOR DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Gill nets.		Pound nets, trap nets, and weirs.		Lines.		Seines.		Fyke and hoop nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	4,579,000	$201,000	3,731,000	$156,000	554,000	$29,000	286,000	$16,000	5,800	$400	2,100	$100
Herring, lake, fresh	1,304,000	20,000	1,277,000	19,000	27,000	600						
Herring, lake, salted	314,000	6,000	314,000	5,900			600	(1)				
Pike and pickerel	24,000	1,000	200	(1)	23,000	900			200	(1)	800	100
Pike perch (wall-eyed pike)	10,000	800	800	100	7,600	600			500	(1)	1,300	100
Sturgeon	4,200	400			4,200	400						
Suckers, fresh	154,000	2,800	9,200	300	145,000	2,600						
Suckers, salted	6,900	100	1,400	(1)	5,500	100						
Trout, fresh	1,941,000	117,000	1,525,000	93,000	158,000	9,700	257,000	14,000	500	(1)		
Trout, salted	214,000	12,000	184,000	10,000	1,500	(1)	29,000	1,700				
Whitefish, fresh	513,000	37,000	342,000	23,000	166,000	13,000			4,500	300		
Whitefish, salted	18,000	1,300	5,800	400	12,000	800						
Whitefish (longjaw), fresh	68,000	2,800	63,000	2,600	4,800	100			100	(1)		
Whitefish (longjaw), salted	7,000	300	7,000	300								

Less than $100.

TABLE 5.—MICHIGAN—FISHERY PRODUCTS OF LAKE ERIE DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Pound nets, trap nets, and weirs.		Seines.		Lines.		Muskrat traps.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,010,000	$93,000	1,031,000	$30,000	630,000	$29,000	1,343,000	$27,000	5,000	$700	300	$400
Fish:												
Carp, German	1,684,000	33,000	284,000	5,700	88,000	1,500	1,311,000	26,000				
Catfish and bullheads	57,000	3,600	66,000	2,700	15,000	600	5,500	200	900	(1)		
Drum, or sheepshead	154,000	1,300	94,000	900	60,000	400	400	(1)				
Herring, lake	2,100	100	500	(1)	1,600	100						
Perch, yellow	133,000	4,000	108,000	3,300	21,000	600	3,300	100				
Pike and pickerel	338,000	24,000	189,000	14,000	142,000	9,900	6,100	400				
Pike perch	105,000	3,300	64,000	2,200	41,000	1,100						
Sturgeon	9,000	1,000	1,300	100	3,600	300			4,100	600		
Suckers	258,000	4,500	160,000	2,900	82,000	1,300	16,000	300				
White bass	35,000	1,700	26,000	1,300	7,800	300	600	(1)				
Whitefish	193,000	16,000	34,000	3,100	159,000	13,000						
All other	11,000	100	3,000	(1)	8,200	100						
Muskrat skins	[2] 300	400									[2] 300	400

[1] Less than $100.

[2] 1,000 skins.

TABLE 6.—MICHIGAN—FISHERY PRODUCTS OF LAKE ST. CLAIR DISTRICT: 1908.[1]

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Lines.		Seines.		Harpoons, spears, etc.		Gill, fyke, and hoop nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	737,000	$32,000	269,000	$17,000	408,000	$13,000	59,000	$2,100	2,600	$100
Black bass	2,000	400	2,000	400						
Carp, German	365,000	11,000	8,000	200	341,000	10,000	16,000	200		
Catfish and bullheads	6,000	500	3,500	300	800	(2)	1,500	100	200	(2)
Mooneye, or toothed herring	500	(2)			500	(2)				
Muskallunge	3,900	400			300	(2)	3,600	300		
Perch, yellow	92,000	3,700	82,000	3,300	2,000	100	8,000	400		
Pike and pickerel	32,000	1,400	6,000	300	6,500	400	18,000	600	1,300	100
Pike perch (wall-eyed pike)	167,000	12,000	148,000	10,000	15,000	1,200	3,500	200		
Rock bass	8,100	300	4,000	200	4,000	200			100	(2)
Sturgeon	13,000	1,600	13,000	1,600	400	(2)				
Sturgeon caviar	200	100	100	100	100	(2)				
Suckers	34,000	700			33,000	600			900	(2)
Sunfish	14,000	400	2,000	100	4,000	100	8,000	200	(2)	(2)
Whitefish	(2)	(2)							(2)	(2)

[1] All taken in shore and boat fisheries.

[2] Less than $100.

[3] Less than 100 pounds.

TABLE 7.—MICHIGAN—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Gill nets.		Pound nets, trap nets, and weirs.		Lines.		Seines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	8,979,000	$516,000	8,635,000	$497,000	190,000	$9,400	134,000	$9,000	20,000	$800
Herring, lake, fresh	2,403,000	100,000	2,365,000	99,000	33,000	800	2,700	100	2,000	100
Herring, lake, salted	73,000	1,200	40,000	500	33,000	700				
Perch, yellow	26,000	900	21,000	800	1,400	(1)	4,000	100	400	(1)
Pike and pickerel	6,400	400	600	(1)	5,800	400				
Pike perch (blue pike)	27,000	700	27,000	700						
Pike perch (wall-eyed pike)	11,000	800	8,100	600	3,300	300				
Sturgeon	5,100	600			5,100	600				
Sturgeon caviar	100	100			100	100				
Suckers, fresh	61,000	1,800	22,000	600	24,000	600			15,000	600
Suckers, salted	4,400	100	1,400	(1)					3,000	100
Trout, fresh	4,079,000	261,000	3,932,000	251,000	21,000	1,300	126,000	8,600		
Trout, salted	92,000	4,800	90,000	4,700			2,000	100		
Whitefish, fresh	1,369,000	108,000	1,314,000	104,000	55,000	4,300				
Whitefish, salted	21,000	1,200	17,000	1,000	3,500	200				
Whitefish (longjaw)	794,000	33,000	794,000	33,000						
All other	6,500	200	2,200	100	4,300	100				

[1] Less than $100.

TABLE 8.—MICHIGAN—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound nets, trap nets, and weirs.		Gill nets.		Fyke and hoop nets.		Seines.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	29,323,000	$957,000	19,109,000	$541,000	4,605,000	$219,000	2,556,000	$94,000	2,031,000	$54,000	721,000	$43,000	301,000	$7,000
Fish:														
Black bass	2,300	400	200	(2)	100	(2)					2,000	400		
Carp, German	2,459,000	55,000	241,000	4,900	300	(2)	491,000	13,000	1,697,000	37,000	8,000	200	22,000	300
Catfish and bullheads	269,000	12,600	134,000	5,900	6,600	200	105,000	4,300	17,000	700	5,000	400	1,500	100
Dogfish, or bowfin	85,000	1,200	13,000	200			72,000	1,000					200	(2)
Drum, or sheepshead	183,000	1,800	87,000	900	1,600	(2)	94,000	900	400	(2)				
Herring, lake, fresh	2,767,000	48,000	1,605,000	21,000	1,150,000	27,000	2,400	100	1,400	(2)	8,000	400		
Herring, lake, salted	9,544,000	154,000	9,258,000	148,000	286,000	5,800					600	(2)		
Ling, or lawyer	9,100	100	6,900	100	1,400	(2)	800	(2)			100	(2)		
Muskallunge	4,000	400	100	(2)					300	(2)			3,600	300
Perch, yellow	2,351,000	72,000	1,525,000	43,000	184,000	6,500	450,000	16,000	43,000	1,400	142,000	5,300	8,100	400
Pike and pickerel	471,000	32,000	215,000	14,000	8,700	500	207,000	15,000	16,000	1,100	6,300	300	18,000	600
Pike perch (sauger), fresh	108,000	3,500	44,000	1,200	100	(2)	64,000	2,300	200	(2)				
Pike perch (wall-eyed pike)	1,047,000	93,000	725,000	66,000	17,000	1,400	13,000	1,200	107,000	10,000	148,000	10,000	39,000	3,800
Rock bass	57,000	2,100	13,000	400			36,000	1,300	4,000	200	4,000	200		
Sturgeon	52,000	6,500	32,000	4,000	1,000	100	1,300	100	500	100	17,000	2,200		
Sturgeon caviar	1,100	800	1,000	700					100	(2)	100	100		
Suckers, fresh	4,174,000	111,000	2,917,000	69,000	175,000	5,400	950,000	34,000	129,000	2,500	2,000	100		
Suckers, salted	225,000	4,800	159,000	2,900	67,000	1,900			2,000	(2)				
Sunfish	48,000	1,300	23,000	500	800	(2)	8,000	300	5,100	100	2,000	100	8,000	200
Trout, fresh	2,429,000	147,000	422,000	26,000	1,662,000	101,000	(2)	(2)	1,600	100	344,000	21,000		
Trout, salted	198,000	11,000	10,000	400	161,000	9,100					27,000	1,600		
White bass	37,000	1,800	8,900	400	700	(2)	26,000	1,300	600	(2)				
Whitefish, fresh	2,202,000	177,000	1,481,000	123,000	677,000	50,000	34,000	3,100	4,700	400	5,600	400		
Whitefish, salted	148,000	9,200	124,000	7,600	24,000	1,700								
Whitefish, smoked	13,000	1,200			13,000	1,200								
Whitefish (longjaw), fresh	70,000	2,900	9,700	300	60,000	2,500			100	(2)				
Whitefish (longjaw), salted	7,000	300			7,000	300								
Whitefish (Menominee), fresh	54,000	1,900	6,800	200	47,000	1,600			100	(2)				
Whitefish (Menominee), salted	94,000	4,300	40,000	1,700	54,000	2,600								
Whitefish caviar	2,300	200	1,600	200	600	100								
All other	8,700	100	8,100	100			100	(2)	500	(2)				
Mussels	200,000	800											200,000	800
Muskrat skins	300	400											300	400

[1] Includes apparatus, with catch, as follows: Harpoons, spears, etc., 100,000 pounds, valued at $5,800; crowfoot dredges, etc., 200,000 pounds, valued at $800; and muskrat traps, 300 pounds, valued at $400.

[2] Less than $100.

MINNESOTA.

The chief fishing grounds of the state of Minnesota are the Mississippi River and Lake Superior. Commercial fishing is carried on to a considerable extent also in the numerous small lakes and rivers of the state, especially in the St. Croix and other tributaries of the Mississippi River, and in the Lake of the Woods and Rainy Lake, which are tributary to Hudson Bay.

No vessel fishery existed in the state in 1908, and the fisheries of Minnesota were entirely of the shore and boat class, although four vessels were engaged in transporting on the Lake Superior waters.

The following statement presents a summary of the chief statistics for the Minnesota fisheries in 1908:

Number of persons employed	934
Capital:	
Vessels and boats, including outfit	$52,000
Apparatus of capture	43,000
Shore and accessory property and cash	33,000
Value of products	192,000

Comparison with previous canvasses.—Although legislation limiting the fishing on the interior waters to hand lines and spears has caused a decided falling off in the products of the fisheries of this state since 1897, about one-third of the value of the products of the state fisheries on the Mississippi River and its tributaries in 1908 represented the value of products from the interior lakes and rivers, a fact which indicates a revival of commercial fishing on these waters. During the past few years carp have multiplied to such an extent in the lakes and other interior waters that in certain cases the game wardens have issued to fishermen special licenses to seine the lakes for this fish.

The next comparative summary shows the changes that have taken place in the fisheries of the Lake Superior district since 1899 and in those on the smaller lakes and interior rivers since 1894. In the tabulation for 1908 the fisheries of the Lake of the Woods and Rainy Lake have been included with the Lake Superior fisheries, instead of with those of the Mississippi River and its tributaries.

A comparison of the statistics given in the summary shows that there has been a steady growth in the Lake Superior district, and that commercial fishing on the tributaries of the Mississippi is gradually recovering from the temporary setback caused by the passage of stringent laws.

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT. Total.	Vessels and boats, including outfit.	Apparatus of capture.	PRODUCTS. Quantity (pounds).	Value.
Lake Superior district:						
1908	212	$55,000	$32,000	$23,000	3,802,000	$83,000
1903	192	29,000	10,000	19,000	2,176,000	45,000
1889	127	24,000	7,900	16,000	609,000	14,000
Mississippi River district:[1]						
1908	719	39,000	20,000	19,000	3,674,000	109,000
1899	438	8,400	3,000	5,400	1,322,000	40,000
1894	895	92,000	38,000	54,000	6,401,000	163,000

[1] Lake of the Woods and Rainy Lake are included in the Lake Superior district in 1908, and in the Mississippi River district in 1894 and 1899.

Persons employed.—The following tabular statement gives the number and distribution of the persons employed in the fisheries of Minnesota in 1908. Over two-thirds of the total number were independent fishermen in the Mississippi River district.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908. Number. Total.	Proprietors and independent fishermen.	Wage-earners.	Wages.
Total	934	[1] 807	127	[2] $29,000
Transporting vessels	13	3	10	4,900
Shore and boat fisheries	918	804	114	700
Shoresmen	3	.....	3	24,000
Mississippi River district (shore and boat fisheries)	719	649	70	9,500
Lake Superior district	215	158	57	20,000
Transporting vessels	13	3	10	4,900
Shore and boat fisheries	199	155	44	14,600
Shoresmen	3	.....	3	600

[1] Exclusive of six proprietors not fishing.
[2] Includes provisions furnished to the value of $4,200.

Equipment and other capital.—The following tabular statement gives statistics of the investment of the state in fisheries, including the value of vessels, boats, and apparatus of capture, together with other capital employed in 1908:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Mississippi River district.	Lake Superior district.
Total	$127,000	$46,000	$81,000
Transporting vessels (steam and motor), including outfit	16,000	.....	16,000
Vessels	13,000	.....	13,000
Outfit	3,200	.....	3,200
Boats	36,000	20,000	16,000
Steam and motor	23,000	14,000	8,600
Sail	1,700	.....	1,700
Row	10,000	5,300	4,700
Other	1,500	700	800
Apparatus of capture [1]	43,000	19,000	23,000
Shore and accessory property	29,000	6,600	22,000
Cash	4,200	.....	4,200

[1] All reported by the shore and boat fisheries.

The four transporting vessels on the Lake Superior waters were steam and motor craft. The rowboats were divided between the Mississippi River and the Lake Superior fisheries in proportions about equal to the relative size of their respective total fleets. All of the sailing craft reported belonged to the Lake Superior district.

The value of the transporting vessels belonging to the Lake Superior district makes the investment in vessels and boats in that district much higher than that in the Mississippi River district, which had products of a greater value.

In the fisheries of the Lake Superior district 39 per cent of the capital was invested in floating craft, while 29 per cent was invested in apparatus of capture. A little over one-half of the investment in vessels and boats represented the value of transporting vessels.

The following tabular statement gives detailed statistics of the number of vessels and boats:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908. Total.	Mississippi River district.	Lake Superior district.
Total	693	482	211
Transporting vessels [1]	4	.....	4
Boats	689	482	207
Steam and motor	82	64	18
Sail	20	.....	20
Row	577	412	165
Other	10	6	4

[1] Tonnage, 45.

A large increase is evident in the total value of the floating craft of the Lake Superior fisheries in 1908, as compared with 1899, when the value was only $7,900. In the earlier year this district had only 91 boats, none of which were motor boats, while in the later year there were 211 boats, of which 18 were power boats. In the Mississippi River district the value of the boats was only $3,000 in 1899, and in that year only 263 boats were reported, as compared with 482 in 1908.

The total investment in apparatus of capture was $43,000. The investment of the Lake Superior district in apparatus of capture exceeded that of the Mississippi River district, and was confined to gill nets, lines, and pound nets. In the interior waters of the state, except for a few dip nets, only hand lines and spears were reported. In the following tabular statement detailed statistics concerning the number of various kinds of apparatus of capture are given:

KIND.	APPARATUS OF CAPTURE: 1908. Total.	Mississippi River district.	Lake Superior district.
Dip nets	34	34	.....
Fyke and hoop nets	234	234	.....
Gill nets	1,288	29	1,259
Pound nets	162	77	85
Seines	86	86	.....
Spears, etc	212	212	.....
Trammel nets	6	6	.....
Traps, frog	43	43	.....
Traps, mink and muskrat	1,980	1,980	.....

Products, by species.—The fishery products of the state in 1908 are distributed by species and by apparatus of capture in Table 1, on page 177. The total of 7,475,000 pounds, valued at $192,000, represents a large increase over the products in 1899, the latest year prior to 1908 for which complete data for the state as a whole are available. In 1899 the total yield, as reported by the Bureau of Fisheries, was only 1,931,000 pounds, with a value of $55,000. The year 1899, however, is an unfavorable year for comparison because of the fact that restrictive legislation recently passed had caused a temporary decline in the fishery activities of the state. A more correct conception of the rate of decrease may be obtained from a comparison of the figures for 1908 with those given in the report of the Bureau of Fisheries for 1894, which showed the fishery products of the Mississippi River district of the state alone in that year to be 6,401,000 pounds.

The catch of fish proper in 1908 amounted in the aggregate to 6,616,000 pounds, or 89 per cent of the total weight of all fishery products, and was valued at $173,000, or 90 per cent of the total value of such products.

Products, by fishing grounds.—The products of the Mississippi River and its tributaries and those of the Lake Superior district for 1908 are given in detail, by species and by apparatus of capture, in Tables 2 and 3, on pages 177 and 178, respectively.

The catch of the Mississippi River district amounted to 3,674,000 pounds and had a value of $109,000, while the catch of the fisheries of Lake Superior amounted to 3,802,000 pounds, valued at $83,000. In the fisheries of the Mississippi River and its tributaries the value of fish proper constituted 82 per cent of the value of the total product, while in the Lake Superior district the entire product was fish proper. Of the value of fish, 48 per cent was reported for the Lake Superior fisheries and 52 per cent for the Mississippi River fisheries. The most important product of the Mississippi River district was German carp, for which a value of $26,000, or 24 per cent of the total for the district, was reported, although the value of the buffalo-fish product was nearly as great.

In the Lake Superior district herring was the principal product, with a value of $38,000, or 46 per cent of the total value of the products of this district.

The next tabular statement gives the distribution of the value of fishery products, according to species and districts.

The quantity and value of the products taken by the fisheries of the Lake Superior waters show a gradual increase, according to the reports of the Bureau of Fisheries. The Lake Superior products amounted to 183,000 pounds, valued at $6,200, in 1890; 609,000 pounds, valued at $14,000, in 1899; and 2,176,000 pounds, valued at $45,000, in 1903.

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Mississippi River district.	Lake Superior district.
Total	$192,000	$109,000	$83,000
Fish	173,000	90,000	83,000
Lake herring	38,000	.....	38,000
Carp, German	26,000	26,000	.....
Buffalo fish	22,000	22,000	.....
Catfish and bullheads	14,000	14,000	.....
Pike perch	12,000	1,100	11,000
Lake trout	12,000	.....	12,000
Sturgeon and caviar	11,000	5,800	5,400
Pike and pickerel	11,000	5,900	5,100
Whitefish	10,000	.....	10,000
All other	15,000	14,000	1,000
Mussel shells, pearls, and slugs	8,400	8,400	.....
Frogs	7,900	7,900	.....
All other	2,900	2,900	.....

In the following tabular statement the distribution of the value of products of the Lake Superior district in 1908 is shown, by species and by waters:

SPECIES.	VALUE OF PRODUCTS OF LAKE SUPERIOR DISTRICT: 1908. Total.	Lake Superior.	Lake of the Woods.	Rainy Lake.
Total	$83,000	$50,000	$27,000	$6,200
Lake herring	38,000	38,000	.....	.....
Lake trout	12,000	12,000	.....	.....
Pike perch	11,000	.....	9,500	1,400
Whitefish	10,000	200	8,000	2,200
Sturgeon and caviar	5,400	.....	5,000	300
Pike and pickerel	5,100	.....	4,000	1,100
All other	1,000	800	.....	200

It appears that lake herring and lake trout were the only fish caught in any considerable quantity in Lake Superior itself. All of the pike perch, sturgeon, pike, and pickerel, and nearly all of the whitefish reported for the Lake Superior district were obtained from the Lake of the Woods and Rainy Lake.

Products, by apparatus of capture.—The distribution of products, by kind of apparatus used and by fishery districts, is given in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908. Total.	Mississippi River district.	Lake Superior district.
Total	$192,000	$109,000	$83,000
Seines	53,000	53,000	.....
Gill nets	50,000	1,500	48,000
Pound nets	44,000	10,000	33,000
Lines	22,000	21,000	1,500
Crowfoot dredges, etc	8,300	8,300	.....
Frog, mink, and muskrat traps	2,800	2,800	.....
Fyke and hoop nets	2,800	2,800	.....
All other	9,800	9,800	.....

On the basis of the value of products taken, seines, gill nets, and pound nets were the most important forms of apparatus of capture, the value of their catch together constituting three-fourths of the total value of all products. For the Lake Superior waters the

products caught by means of gill nets and pound nets had a value equal to 98 per cent of that of all products. On the Mississippi River and its tributaries, on the other hand, the catch by gill nets was small and the catch by pound nets was valued at less than one-fourth of the total value of products caught by pound nets in the state. Lines were the only other form of apparatus of capture used in the Lake Superior district. Only 7 per cent of the total value of the products caught by lines contributed to the catch from these waters. In the interior waters of the Mississippi River district, on the other hand, where only hand lines and spears were allowed by law, lines formed an important means of capture. Almost one-fifth of the value of the fishery products of the Mississippi River district represented the value of product caught by hand lines.

Principal species.—Lake herring, taken wholly in Lake Superior, formed the most important fishery product of the state, contributing 20 per cent of the value of all fishery products. A part of the lake-herring catch was sold fresh at a valuation of $21,000, while the remainder, which was sold salted and smoked, brought $18,000. This fish was caught entirely by means of gill nets.

The entire catches of German carp, buffalo fish, and catfish were taken in the Mississippi River and its tributaries. The buffalo fish and the catfish have been steadily declining in numbers during the past few years, and the carp has been taking a higher place in this state, as in the other states along the Mississippi and Missouri Rivers. No carp were caught in 1894 and a quantity valued at only $900 was taken in 1899, while in 1908 over a million pounds, valued at $26,000, were reported, and carp ranked second among the fishery products of the state.

Some pike perch were caught in the tributary lakes of the Mississippi River, but over nine-tenths of the value reported for this fish was reported from the Lake Superior waters. All of the lake trout came from the Lake Superior fisheries. Sturgeon came from the Mississippi River and also from the Lake of the Woods and Rainy Lake, which, while included in the Lake Superior system, did not come under the statute prohibiting the taking of sturgeon from Lake Superior. The pike and pickerel caught were secured from the Lake of the Woods and Rainy Lake, and from the tributaries of the Mississippi River. The whitefish were caught in the Lake Superior waters only.

The mussel-shell and pearl industry has become an important branch of the Mississippi River fisheries during the past few years. The industry was not mentioned in the report of the Bureau of Fisheries for 1894, and its product amounted to only $200 in value in 1899, but in 1908 products valued at $8,400 were reported. The value of pearls and slugs secured incidentally in the pursuit of the mussel-shell industry represented $3,700, or 44 per cent of the value of mussel-shell products in 1908.

The frog industry, carried on in the tributary waters of the Mississippi, is also of recent development, having been started about 1895. In 1899 a product of 92,000 pounds, valued at $9,600, was reported, and in 1908, 66,000 pounds, valued at $7,900. The 1908 product, though somewhat smaller in quantity and value than that secured in 1899, represented nearly 20 per cent of the total value of the capture in the United States and was surpassed only by the capture in Missouri.

TABLE 1.—MINNESOTA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Gill nets.		Pound nets.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	7,475,000	$192,000	1,884,000	$53,000	2,991,000	$50,000	1,198,000	$44,000	426,000	$22,000	51,000	$2,800	926,000	$21,000
Fish:														
Black bass	1,900	400	1,500	400					400	(2)				
Buffalo fish	664,000	22,000	499,000	16,000	4,100	200	146,000	5,800	900	(2)	7,300	300	6,700	200
Carp, German	1,132,000	26,000	1,027,000	24,000	6,100	200	21,000	500	15,000	400	15,000	400	48,000	1,100
Catfish and bullheads	208,000	14,000	43,000	2,800	700	100	4,000	400	140,000	8,800	20,000	1,800		
Crappie	97,000	6,000	2,300	200					95,000	5,800				
Dogfish	1,200	(2)	1,200	(2)										
Drum, fresh-water	333,000	4,000	120,000	1,500	1,000	(2)	204,000	3,000	6,300	100	1,500	(2)		
Eels	800	100							500	(2)	300	(2)		
Lake herring, fresh	1,608,000	21,000			1,608,000	21,000								
Lake herring, salted	1,165,000	18,000			1,165,000	18,000								
Lake herring, smoked	4,000	200			4,000	200								
Lake trout, fresh	188,000	10,000			138,000	7,500	25,000	1,400	25,000	1,300				
Lake trout, salted	27,000	1,500			23,000	1,300	1,200	100	3,100	200				
Perch, yellow	7,400	200	1,400	(2)					6,000	100				
Pike and pickerel	351,000	11,000	40,000	2,200	8,000	300	210,000	5,100	63,000	2,300	3,900	200	25,000	900
Pike perch (wall-eyed pike)	273,000	12,000			2,900	200	256,000	11,000	13,000	900			700	(2)
Rock bass	5,100	200							5,100	200				
Sturgeon	164,000	11,000	94,000	4,800	13,000	700	55,000	5,400	1,000	100			500	(2)
Caviar	100	100			100	100								
Suckers	76,000	800	23,000	400	5,000	(2)	43,000	300	400	(2)			5,100	10
Sunfish	66,000	2,300	16,000	500					50,000	1,800				
Whitefish	205,000	10,000			4,900	300	200,000	10,000						
Whitefish (bluefin)	1,400	(2)			1,400	(2)								
Whitefish (longjaw)	35,000	700			4,000	100	31,000	600						
Whitefish (Menominee), salted	1,000	100			1,000	100								
Frogs	66,000	7,900											66,000	7,900
Turtles	25,000	600	15,000	400			1,000	(2)			2,900	100	6,000	100
Mussel shells, pearls, and slugs	767,000	8,400											767,000	8,400
Skins, mink	[3] 200	1,100											[3] 200	1,100
Skins, muskrat	[4] 1,700	1,200											[4] 1,700	1,200

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 743,000 pounds, valued at $8,300; mink, muskrat, and frog traps, 5,700 pounds, valued at $2,800; spears, etc., 46,000 pounds, valued at $1,600; trammel nets, 42,000 pounds, valued at $900; dip nets, 3,100 pounds, valued at $300; and minor apparatus, 86,000 pounds, valued at $7,000.

[2] Less than $100.

[3] 300 skins.

[4] 5,000 skins.

TABLE 2.—MINNESOTA—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Gill nets.		Pound nets.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,674,000	$109,000	1,884,000	$53,000	28,000	$1,500	388,000	$10,000	398,000	$21,000	51,000	$2,800	926,000	$21,000
Fish:														
Black bass	1,900	400	1,500	400					400	(2)				
Buffalo	664,000	22,000	499,000	16,000	4,100	200	146,000	5,800	900	(2)	7,300	300	6,700	200
Carp, German	1,132,000	26,000	1,027,000	24,000	6,100	200	21,000	500	15,000	400	15,000	400	48,000	1,100
Catfish and bullheads	208,000	14,000	43,000	2,800	700	100	4,000	400	140,000	8,800	20,000	1,800		
Crappie	97,000	6,000	2,300	200					95,000	5,800				
Dogfish	1,200	(2)	1,200	(2)										
Drum, fresh-water	333,000	4,000	120,000	1,500	1,000	(2)	204,000	3,000	6,300	100	1,500	(2)		
Eels	800	100							500	(2)	300	(2)		
Perch, yellow	7,400	200	1,400	(2)					6,000	100				
Pike and pickerel	138,000	5,900	40,000	2,200	3,300	200	2,100	100	63,000	2,300	3,900	200	25,000	900
Pike perch (wall-eyed pike)	15,000	1,100			900	100			13,000	900			700	(2)
Rock bass	5,100	200							5,100	200				
Sturgeon	109,000	5,700	94,000	4,800	12,000	600	2,000	100	1,000	100			500	(2)
Caviar	100	100			100	100								
Suckers	35,000	600	23,000	400			6,800	100	400	(2)			5,100	100
Sunfish	66,000	2,300	16,000	500					50,000	1,800				
Frogs	66,000	7,900											66,000	7,900
Turtles	25,000	600	15,000	400			1,000	(2)			2,900	100	6,000	100
Mussel shells	767,000	4,700											767,000	4,700
Pearls and slugs		3,700												3,700
Skins, mink	[3] 200	1,100											[3] 200	1,100
Skins, muskrat	[4] 1,700	1,200											[4] 1,700	1,200

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 743,000 pounds, valued at $8,300; mink, muskrat, and frog traps, 5,700 pounds, valued at $2,800; spears, etc., 46,000 pounds, valued at $1,600; trammel nets, 42,000 pounds, valued at $900; dip nets, 3,100 pounds, valued at $300; and minor apparatus, 86,000 pounds, valued at $7,000.

[2] Less than $100.

[3] 300 skins.

[4] 5,000 skins.

TABLE 3.—MINNESOTA—FISHERY PRODUCTS OF LAKE SUPERIOR DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Gill nets.		Pound nets.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,802,000	$83,000	2,963,000	$48,000	811,000	$33,000	28,000	$1,500
Lake herring, fresh	1,608,000	21,000	1,608,000	21,000				
Lake herring, salted	1,165,000	18,000	1,165,000	18,000				
Lake herring, smoked	4,000	200	4,000	200				
Lake trout, fresh	188,000	10,000	138,000	7,500	25,000	1,400	25,000	1,300
Lake trout, salted	27,000	1,500	25,000	1,300	1,200	100	3,100	200
Pike and pickerel	213,000	5,100	5,000	100	208,000	5,000		
Pike perch (wall-eyed pike)	258,000	11,000	2,000	100	256,000	11,000		
Sturgeon	54,000	5,400	1,000	100	53,000	5,300		
Suckers	41,000	200	5,000	(1)	36,000	200		
Whitefish	205,000	10,000	4,900	300	200,000	10,000		
Whitefish (bluefin)	1,400	(1)	1,400	(1)				
Whitefish (longjaw)	35,000	700	4,000	100	31,000	600		
Whitefish (Menominee), salted	1,000	100	1,000	100				

[1] Less than $100.

MISSISSIPPI.

The fisheries of Mississippi may be grouped in two divisions, including, respectively, the fisheries of the Gulf of Mexico and those of the Mississippi River and its tributaries. Of the total value of the state product in 1908, the Gulf fisheries contributed 82 per cent. Biloxi is a center for the wholesale dealers and the canners, and here oysters and shrimps are both canned and prepared for shipment fresh, in large quantities.

The following statement presents a summary of the chief statistics for the state fisheries in 1908:

Number of persons employed	2,037
Capital:	
Vessels and boats, including outfit	$418,000
Apparatus of capture	58,000
Shore and accessory property and cash	46,000
Value of products	556,000

Comparison with previous canvasses.—A slight falling off in the number of persons employed is shown for each district in 1908, as compared with the last canvass, as well as a decrease in the quantity and in the value of the product. An increase, however, is to be noted in the investment in equipment for each district.

The decline in the products of the Gulf fisheries in late years is not due entirely to natural causes, but is to be attributed, in part, to a recent decision of the Supreme Court of the United States, by which the jurisdiction of the oyster and other fishing grounds about Pear Island was transferred from Mississippi to Louisiana.

The following tabular statement presents for each district comparative statistics as to persons employed, value of equipment, and products, as returned at the canvass of 1908 and certain earlier canvasses:

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
Gulf of Mexico district:						
1908	1,555	$422,000	$385,000	$38,000	17,302,000	$459,000
1902	1,787	385,000	346,000	39,000	25,427,000	553,000
1897	1,061	143,000	124,000	19,000	7,830,000	192,000
1890	693	73,000	62,000	10,000	8,131,000	246,000
1887	495	50,000	43,000	7,000	6,548,000	190,000
Mississippi River district:						
1908	476	53,000	33,000	20,000	3,245,000	97,000
1899	489	33,000	14,000	19,000	3,921,000	98,000
1894	367	11,000	3,500	7,700	2,214,000	56,000

Persons employed.—The following table gives statistics of persons employed in the fisheries of Mississippi in 1908:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	2,037	[1] 989	1,048	[2] $309,000
Vessel fisheries	878	18	860	259,000
Transporting vessels	68	3	65	27,000
Shore and boat fisheries	1,085	968	117	18,000
Shoresmen	6	.....	6	5,300
Gulf of Mexico district	1,561	624	937	289,000
Vessel fisheries	868	18	850	258,000
Transporting vessels	55	1	54	21,000
Shore and boat fisheries	632	605	27	4,400
Shoresmen	6	.....	6	5,300
Mississippi River district	476	365	111	20,000
Transporting vessels [3]	13	2	11	6,400
Shore and boat fisheries	463	363	100	14,000

[1] Exclusive of 47 proprietors not fishing.
[2] Includes provisions furnished to the value of $45,000.
[3] Includes crew of one vessel engaged in fishing.

Wage-earners slightly outnumbered proprietors and independent fishermen. Of the wage-earners, 89 per cent were employed in the Gulf fisheries, and of the wage-earners in this district, 91 per cent were employed in the vessel fisheries. The low ratio of wage-earners to proprietors and independent fishermen in the shore and boat fisheries, the absence of salaried employees, and the small average sum paid to employees make plain the small scale on which this class of fisheries is conducted in Mississippi.

Equipment and other capital.—The following table shows the distribution of the investment in the fisheries of the state:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$522,000	$461,000	$61,000
Vessels, including outfit	372,000	359,000	13,000
Fishing	326,000	326,000	.....
Steam and motor	4,400	4,400	.....
Vessels	3,700	3,700	.....
Outfit	700	700	.....
Sail	322,000	322,000	.....
Vessels	275,000	275,000	.....
Outfit	47,000	47,000	.....
Transporting	45,000	32,000	13,000
Steam and motor	30,000	17,000	13,000
Vessels	25,000	15,000	11,000
Outfit	4,200	2,400	1,800
Sail	15,000	15,000	.....
Vessels	11,000	11,000	.....
Outfit	3,100	3,100	.....
Other	400	.....	400
Boats	46,000	27,000	20,000
Steam and motor	16,000	5,000	[1] 11,000
Sail	14,000	14,000	.....
Row	17,000	8,700	8,700
Apparatus of capture	58,000	38,000	20,000
Vessel fisheries	26,000	25,000	1,400
Shore and boat fisheries	31,000	13,000	19,000
Shore and accessory property	34,000	27,000	7,300
Cash	12,000	12,000	300

[1] Includes the value of one vessel engaged in fishing.

Over three-fifths of the total investment in the fisheries of the state represented the value of the sail fishing vessels and their outfits. All the shore and accessory property and cash capital reported, with trifling exceptions, pertained to the shore and boat fisheries. The total investment was distributed in the following manner: $353,000 in vessel fisheries; $45,000 in transporting vessels and $124,000 in shore and boat fisheries.

Detailed statistics of the number and tonnage of the vessels and the number of the boats are given in the next table.

In the vessel fisheries all but two of the craft were sailing vessels. Among transporting vessels steam and motor craft equal sailing craft in number, but the value of the former was more than double that of the latter. The fisheries of the Gulf of Mexico were credited with the entire investment in fishing vessels, except the value of one vessel of 11 tons engaged in fishing in the Mississippi River district. The transporting vessels used in the Gulf district were valued at $32,000, and the boats used in the shore and boat fisheries of the same district were valued at $27,000.

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Vessels, number	206	199	7
Fishing, number	187	186	1
Steam and motor—			
Number	3	2	1
Tonnage	41	30	11
Sail—			
Number	184	184	.....
Tonnage	2,145	2,145	.....
Transporting, number	19	13	6
Steam and motor—			
Number	8	5	3
Tonnage	138	74	64
Sail—			
Number	8	8	.....
Tonnage	128	128	.....
Other, number	3	.....	3
Boats, number	1,144	647	497
Steam and motor	69	11	58
Sail	119	119	.....
Row	956	517	439

The following tabular statement gives details of the number of the principal kinds of apparatus of capture used:

KIND.	APPARATUS OF CAPTURE: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Gulf of Mexico district.	Mississippi River district.	Vessel fisheries.	Shore and boat fisheries.
Cast nets	71	71	.....	.....	71
Fyke and hoop nets	1,710	.....	1,710	30	1,680
Pound nets	2	.....	2	.....	2
Seines	135	110	25	90	45
Shrimp traps	1,150	.....	1,150	.....	1,150
Spears, etc.	116	116	.....	.....	116
Trammel nets	136	135	1	25	111

Products, by species.—Table 1, on page 182, gives the quantity and value of the fishery products of Mississippi, by species and by apparatus of capture.

The greater portion of the product in 1908 consisted of mollusks and crustaceans. The oyster yield was more valuable than all the rest of the catch, and the shrimp product had a total value almost equal to half the value of all fish proper. The total fish catch amounted to 8,520,000 pounds, valued at $164,000. Buffalo fish and sea trout were the leading species, while mullet, catfish, and paddlefish followed.

Products, by fishing grounds.—Table 2, on page 183, shows, by species and by apparatus of capture, the weight and value of the product taken in the Gulf of Mexico district by Mississippi fishermen, and Table 3 gives similar detailed statistics for the Mississippi River district. The value reported for the principal species taken in the two districts is shown in the next tabular statement.

The fishery product from the Gulf of Mexico district contributed 82 per cent of the value of the total product of the state. Oysters ranked first, with a value forming 64 per cent of the total value of products from this district, and shrimp ranked second, with a value equal to 15 per cent of the total. Of fish proper, the

catch reported for the Gulf of Mexico fisheries was 5,413,000 pounds, valued at $78,000. This value represents 17 per cent of the total value of the fishery products of the Gulf district, and is smaller than the corresponding value for the Mississippi River district. The bulk of the catch of fish proper was composed of two low-priced species, menhaden and mullet; but squeteague led in value, followed by mullet.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$556,000	$459,000	$97,000
Fish	164,000	78,000	86,000
Buffalo fish	34,000	.....	34,000
Squeteague	28,000	28,000	.....
Mullet	20,000	20,000	.....
Catfish	19,000	600	19,000
Paddlefish	14,000	.....	14,000
Channel bass, or redfish	10,000	10,000	.....
Drum, fresh-water	6,600	100	6,500
All other	31,000	19,000	12,000
Oysters	295,000	295,000	.....
Shrimp	81,000	69,000	11,000
All other	17,000	17,000	.....

The value of the fishery product from the Mississippi River district amounted to 17 per cent of the value of the total state product. Except for a small shrimp catch, the entire product consisted of fish proper. The quantity of fish proper taken in this district was smaller than that taken in the Gulf district, which formed 64 per cent of the total weight, but, as already stated, the value of the river catch was greater. Buffalo fish was the leading species, contributing over one-half of the weight and over one-third of the value of the Mississippi River product. Catfish ranked next in quantity and value, and was closely followed by paddlefish and paddlefish caviar.

Products, by class of fisheries.—Table 4, on page 184, gives statistics of the weight and value, by species and by apparatus of capture, of the product taken by the vessel fisheries of Mississippi on the Gulf of Mexico, and Table 5, on page 184, gives similar statistics for the shore and boat fisheries of the same district. Oysters contributed 50 per cent of the value of the product taken by shore and boat fisheries of the Gulf district. The fish proper reported by this class of fisheries had a value of $50,000, squeteague being the leading fish with respect to value, and mullet ranking second. The catch of crabs made in the Gulf shore and boat fisheries, which comprised the entire crab product of Mississippi, ranked next to the mullet product in value.

The following tabular statement distributes the value of products reported for the state as a whole and for each class of fisheries, by species arranged in order of value:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$556,000	$302,000	$255,000
Fish	164,000	30,000	133,000
Buffalo fish	34,000	900	34,000
Squeteague, or sea trout	28,000	9,200	19,000
Mullet	20,000	6,200	13,000
Catfish	19,000	100	19,000
Paddlefish and paddlefish caviar	18,000	1,800	16,000
Channel bass, or redfish	10,000	4,200	6,100
Drum, fresh-water	6,600	.....	6,600
All other	27,000	7,900	19,000
Oysters	295,000	215,000	81,000
Shrimp	81,000	56,000	24,000
Crabs	15,900	.....	15,000
All other	1,300	200	1,100

With the exception of one vessel of 11 tons, all of the Mississippi River fisheries were of the shore and boat class.

Products, by apparatus of capture.—Fyke and hoop nets, pound nets, and shrimp traps were used exclusively in the Mississippi River district, and cast nets, shrimp nets, and dredges and tongs, exclusively in the Gulf district, while seines, trammel nets, and lines were common to both districts.

The total value of products for the state, distributed by apparatus of capture and by fishery districts, is shown in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Gulf of Mexico district.	Mississippi River district.
Total	$556,000	$459,000	$97,000
Dredges, tongs, etc.	295,000	295,000	.....
Seines	108,000	82,000	26,000
Trammel nets	57,000	56,000	600
Fyke and hoop nets	40,000	.....	40,000
Lines	40,000	21,000	19,000
Shrimp nets and traps	12,000	.....	12,000
All other	4,700	3,400	1,200

The following tabular statement distributes the total value of products for the state as a whole and for each class of fisheries by apparatus of capture, arranged in the order of value of their catch:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$556,000	$302,000	$255,000
Dredges, tongs, etc.	295,000	215,000	81,000
Seines	108,000	67,000	40,000
Trammel nets	57,000	20,000	37,000
Fyke and hoop nets	40,000	.....	40,000
Lines	40,000	.....	40,000
Shrimp nets and traps	12,000	.....	12,000
All other	4,700	.....	4,700

Oysters.—The oyster product, all of which was taken in the Gulf of Mexico district, mostly by vessel fishermen, contributed 53 per cent of the value of the state fishery products. The oysters taken by the shore and boat fisheries brought a price considerably higher than that received for the product of the vessel fisheries, the average price being 46 cents per bushel for the former, as against 24 cents for the latter. Oyster farming was followed to a very limited extent, less than 1 per cent of the total oyster product being from private areas. The entire oyster product in 1908 was much smaller than in 1902, but compared with the yield in previous years, must be considered unusually large. The following statement gives statistics of the oyster product for 1908 and for previous canvasses:

YEAR.	OYSTER PRODUCT.	
	Quantity (bushels).	Value.
1908	1,068,000	$295,000
1902	2,405,000	426,000
1897	630,000	111,000
1890	806,000	167,000
1887	581,000	119,000
1880	25,000	10,000

Shrimp.—Shrimp are taken in Mississippi in larger quantities than in any other state except Louisiana. They represented 15 per cent of the total value of the state product, and were taken in both the Mississippi River and the Gulf of Mexico districts. Only 3 per cent of the total shrimp product was taken in the Mississippi River district, but this small portion contributed 14 per cent of the total value. The vessel fisheries of the Gulf took a quantity valued at 70 per cent of the total value for the state. The product of the Gulf was taken almost exclusively with seines, while in the Mississippi River shrimp traps were the form of apparatus of capture used. In quantity the shrimp catch of 1908 shows a decrease compared with that of 1902, but an increase over years prior thereto. In value, however, the shrimp product has increased steadily since 1890, as is shown by the following tabular statement:

YEAR.	SHRIMP PRODUCT OF GULF OF MEXICO DISTRICT.	
	Quantity (pounds).	Value.
1908	3,983,000	$69,000
1902	4,424,000	58,000
1897	1,903,000	29,000
1890	614,000	15,000
1887	1,145,000	24,000

Buffalo fish.—This fish was the leading species of fish proper, and was taken almost exclusively in the Mississippi River district, where it contributed 35 per cent of the value of the product. Fyke and hoop nets were the principal forms of apparatus of capture used. The catch of buffalo fish in 1908, although about double that of 1894, shows a decrease compared with 1899. Statistics of the catch of buffalo fish in the Mississippi River district for 1894, 1899, and 1908 are given in the following tabular statement:

YEAR.	BUFFALO-FISH PRODUCT OF MISSISSIPPI RIVER DISTRICT.	
	Quantity (pounds).	Value.
1908	1,664,000	$34,000
1899	2,023,000	34,000
1894	848,000	15,000

Squeteague, or sea trout.—The catch of squeteague has increased constantly in quantity, as reported at the various canvasses, and of late years, in value, as is shown by the following tabular statement:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	517,000	$28,000
1902	473,000	18,000
1897	453,000	16,000
1890	372,000	15,000
1887	258,000	12,000

Other products.—Mullet contributed 4 per cent of the value of the state product. This species, almost the entire catch of which was taken with trammel nets, ranked third in value among the fish products proper of the state, and second among those of the Gulf district. During recent years the mullet product has increased greatly in both quantity and value, as is indicated by the following tabular statement:

YEAR.	MULLET PRODUCT.	
	Quantity (pounds).	Value.
1908	1,035,000	$20,000
1902	600,000	10,000
1897	241,000	2,900
1890	305,000	3,500
1887	233,000	2,600
1880	1,500	100

Catfish were taken almost entirely by shore and boat fishermen, and practically all of the catch came from the Mississippi River district. They are caught chiefly with lines. The following tabular statement gives the statistics of the catch of the Mississippi River district as reported at the canvasses of 1894, 1899, and 1908:

YEAR.	CATFISH PRODUCT OF MISSISSIPPI RIVER DISTRICT.	
	Quantity (pounds).	Value.
1908	471,000	$19,000
1899	397,000	14,000
1894	852,000	24,000

TABLE 1.—MISSISSIPPI—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Trammel nets.		Fyke and hoop nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	20,547,000	$556,000	8,118,000	$108,000	1,839,000	$57,000	1,766,000	$40,000	1,022,000	$40,000	7,802,000	$312,000
Fish:												
Black bass	15,000	1,000	2,000	200	200	[2]			13,000	800		
Bluefish	18,000	800	4,900	200	13,000	600			[2]	[2]		
Buffalo fish	1,664,000	34,000	421,000	9,600	12,000	200	1,154,000	23,000	35,000	700	42,000	800
Carp, German	26,000	500	12,000	300			14,000	200				
Catfish	502,000	19,000	54,000	2,100	22,000	600	71,000	3,100	350,000	13,000	6,000	200
Crappie	89,000	4,800	28,000	1,500	100	[2]	11,000	700	50,000	2,600		
Croaker	176,000	3,700	37,000	700	100,000	2,000			25,000	600	14,000	300
Drum, fresh-water	337,000	6,600	59,000	1,300	2,200	[2]	244,000	4,800	18,000	400	13,000	200
Drum (salt-water), channel bass, or redfish	244,000	11,000	41,000	1,800	185,000	8,200			17,000	800	1,500	100
Flounders	38,000	2,000	2,300	100	7,200	300			100	[2]	28,000	1,500
Menhaden	3,149,000	3,900	3,149,000	3,900	500	[2]						
Mullet	1,035,000	20,000	973,000	18,000	13,000	400					22,000	400
Paddlefish	463,000	14,000	209,000	6,800	1,000	[2]	253,000	7,500				
Caviar and paddlefish eggs	4,100	4,000	3,900	3,800			200	200				
Pompano	4,600	400	1,200	100	3,300	300			200	[2]		
Rock bass	12,000	700							12,000	700		
Sailor's choice, or pinfish	9,200	200	1,900	[2]	6,400	100			600	[2]	400	[2]
Sheepshead	81,000	4,300	7,600	400	58,000	3,000			12,000	700	2,500	100
Spadefish	6,900	200	2,400	100	4,300	100			100	[2]	200	[2]
Spanish mackerel	7,100	500	1,400	100	5,400	400			400	[2]		
Spot	71,000	1,300	20,000	400	50,000	900			900	[2]	300	[2]
Squeteague, or sea trout	517,000	28,000	80,000	4,400	383,000	21,000			50,000	2,800	4,400	200
Strawberry bass	3,200	200	[2]	[2]	[2]	[2]			3,200	200		
Suckers	20,000	400					19,000	400	1,000	[2]		
Sunfish, or bream	14,000	600	4,200	300	3,500	100			6,500	300	100	[2]
Whiting	12,000	400	2,900	100	7,300	200			1,500	[2]		
All other	1,700	100	500	[2]	1,200	100			200	[2]		
Crabs, hard	380,000	9,800							380,000	9,800		
Crabs, soft	47,000	5,600							47,000	5,600		
Shrimp	4,121,000	81,000	3,925,000	68,000							196,000	13,000
Terrapin	5,100	1,200	5,100	1,200								
Turtles	2,200	100	2,200	100								
Oysters, market, from public areas	[4] 7,423,000	292,000									[4] 7,423,000	292,000
Oysters, market, from private areas	[5] 50,000	3,800									[5] 50,000	3,800

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 7,473,000 pounds, valued at $295,000; shrimp nets and traps, 178,000 pounds, valued at $12,000; cast nets, 62,000 pounds, valued at $1,900; spears, etc., 28,000 pounds, valued at $1,500; and pound nets, 61,000 pounds, valued at $1,200.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 1,060,000 bushels.
[5] 7,100 bushels.

TABLE 2.—MISSISSIPPI—FISHERY PRODUCTS OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Trammel nets.		Lines.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	17,302,000	$459,000	7,331,000	$82,000	1,818,000	$56,000	550,000	$21,000	62,000	$1,900	7,541,000	$298,000
Fish:												
Black bass	1,700	100			200	[2]	1,500	100				
Bluefish	18,000	800	4,900	200	13,000	600	[2]	[2]				
Catfish	31,000	600	5,300	100	14,000	300	12,000	300				
Channel bass, or redfish	227,000	10,000	38,000	1,700	174,000	7,900	15,000	700	1,100	100		
Crappie	2,100	100	100	[2]	100	[2]	1,900	100				
Croaker	176,000	3,700	37,000	700	100,000	2,000	25,000	600	14,000	300		
Drum, fresh-water	2,400	100	100	[2]	2,200	[2]	200	[2]				
Drum, salt-water	17,000	600	3,600	100	11,000	400	2,000	100	400	[2]		
Flounders	38,000	2,000	2,300	100	7,200	300	100	[2]	100	[2]	28,000	1,500
Menhaden	3,149,000	3,900	3,149,000	3,900	500	[2]						
Mullet	1,035,000	20,000	41,000	800	973,000	18,000			22,000	400		
Pompano	4,600	400	1,200	100	3,300	300	200	[2]				
Sailor's choice, or pinfish	9,200	200	1,900	[2]	6,400	100	600	[2]	400	[2]		
Sheepshead	81,000	4,300	7,600	400	58,000	3,000	12,000	700	2,500	100		
Spadefish	6,900	200	2,400	100	4,300	100	100	[2]	200	[2]		
Spanish mackerel	7,100	500	1,400	100	5,400	400	400	[2]				
Spot	71,000	1,300	20,000	400	50,000	900	900	[2]	200	[2]		
Squeteague	517,000	28,000	80,000	4,400	383,000	21,000	50,000	2,800	4,400	200		
Whiting	12,000	400	2,900	100	7,300	200	1,500	[2]	100	[2]		
All other	2,300	100	500	[2]	1,400	100	400	[2]				
Crabs, hard	380,000	9,800					380,000	9,800				
Crabs, soft	47,000	5,600					47,000	5,600				
Shrimp	3,983,000	69,000	3,925,000	68,000					18,000	700	40,000	800
Terrapin	5,100	1,200	5,100	1,200								
Turtles	2,200	100	2,200	100								
Oysters, market, from public areas	[4] 7,423,000	292,000									[4] 7,423,000	292,000
Oysters, market, from private areas	[5] 50,000	3,800									[5] 50,000	3,800

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 7,473,000 pounds, valued at $295,000; spears, etc., 28,000 pounds, valued at $1,500; and shrimp nets, 40,000 pounds, valued at $800.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 1,060,000 bushels.
[5] 7,100 bushels.

TABLE 3.—MISSISSIPPI—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Seines.		Lines.		Pound nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,245,000	$97,000	1,766,000	$40,000	787,000	$26,000	472,000	$19,000	61,000	$1,200	159,000	$12,000
Fish:												
Black bass	13,000	900			2,000	200	11,000	700				
Buffalo fish	1,664,000	34,000	1,154,000	23,000	421,000	9,600	35,000	700	42,000	800	12,000	200
Carp, German	26,000	500	14,000	200	12,000	300						
Catfish	471,000	19,000	71,000	3,100	49,000	2,000	338,000	13,000	6,000	200	8,000	300
Crappie	87,000	4,700	11,000	700	28,000	1,500	49,000	2,500				
Drum, fresh-water	334,000	6,500	244,000	4,800	59,000	1,200	18,000	400	13,000	200		
Paddlefish	463,000	14,000	253,000	7,500	209,000	6,800					1,000	[2]
Caviar	4,100	4,000	200	200	3,900	3,800						
Rock bass	12,000	700					12,000	700				
Strawberry bass	3,000	200					3,000	200				
Suckers	20,000	400	19,000	400			1,000	[2]				
Sunfish, or bream	9,000	400			3,000	100	6,000	200				
Shrimp	138,000	11,000									138,000	11,000

[1] Includes apparatus, with catch, as follows: Shrimp traps, 138,000 pounds, valued at $11,000, and trammel nets, 21,000 pounds, valued at $600.
[2] Less than $100.

TABLE 4.—MISSISSIPPI—PRODUCTS OF VESSEL FISHERIES OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Dredges, tongs, etc.		Seines.		Trammel nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	13,188,000	$299,000	6,244,000	$215,000	6,288,000	$65,000	657,000	$20,000
Fish:								
Bluefish	13,000	600			3,800	200	8,900	400
Catfish	3,600	100			1,400	(1)	2,200	100
Channel bass, or redfish	100,000	4,200			20,000	900	80,000	3,400
Croaker	44,000	800			15,000	300	29,000	500
Drum, salt-water	5,500	100			1,500	(1)	4,000	100
Flounders	5,700	300			1,200	100	4,600	200
Menhaden	2,751,000	3,400			2,751,000	3,400	200	(1)
Mullet	353,000	6,200			24,000	400	329,000	5,800
Pompano	2,900	300			900	100	2,000	200
Sheepshead	22,000	1,000			3,800	200	18,000	900
Spadefish	5,500	100			2,100	(1)	3,400	100
Spanish mackerel	4,500	300			1,100	100	3,400	200
Spot	43,000	800			15,000	300	28,000	500
Squeteague, or sea trout	178,000	9,200			40,000	2,200	138,000	7,100
Whiting	4,400	100			1,400	(1)	3,000	100
All other	2,600	100			1,000	(1)	1,600	(1)
Shrimp	3,405,000	56,000			3,405,000	56,000		
Terrapin	600	200			600	200		
Oysters, market, from public areas	[2] 6,226,000	214,000	[2] 6,226,000	214,000				
Oysters, market, from private areas	[3] 18,000	1,100	[3] 18,000	1,100				

[1] Less than $100. [2] 889,000 bushels. [3] 2,000 bushels.

TABLE 5.—MISSISSIPPI—PRODUCTS OF SHORE AND BOAT FISHERIES OF GULF OF MEXICO DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Trammel nets.		Lines.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	4,114,000	$160,000	1,161,000	$37,000	550,000	$21,000	1,043,000	$18,000	1,359,000	$85,000
Fish:										
Black bass	1,700	100	200	(2)	1,500	100				
Bluefish	5,200	300	4,000	200	(2)	(2)	1,200	100		
Buffalo fish	200	(2)	200	(2)						
Catfish	27,000	600	11,000	200	12,000	300	3,800	100		
Channel bass, or redfish	127,000	6,100	93,000	4,500	15,000	700	18,000	800	1,100	100
Crappie	2,100	100	100	(2)	1,900	100	100	(2)		
Croaker	132,000	3,000	71,000	1,500	25,000	600	23,000	500	14,000	300
Drum, fresh-water	2,400	100	2,200	(2)	200	(2)	100	(2)		
Drum, salt-water	12,000	400	7,200	300	2,000	100	2,000	100	400	(2)
Flounders	32,000	1,700	2,600	100	100	(2)	1,100	(2)	28,000	1,500
Menhaden	398,000	500	300	(2)			398,000	500		
Mullet	682,000	13,000	644,000	12,000			17,000	300	22,000	400
Pompano	1,600	200	1,300	100	200	(2)	200	(2)		
Sailor's choice, or pinfish	7,600	200	5,500	100	600	(2)	1,100	(2)	400	(2)
Sheepshead	58,000	3,200	40,000	2,200	12,000	700	3,800	200	2,500	100
Spanish mackerel	2,700	200	2,100	200	400	(2)	200	(2)		
Spot	28,000	500	22,000	400	900	(2)	4,500	100	200	(2)
Squeteague, or sea trout	339,000	19,000	245,000	14,000	50,000	2,800	40,000	2,200	4,400	200
Sunfish, or bream	5,300	200	3,500	100	500	(2)	1,200	(2)	100	(2)
Whiting	7,300	200	4,300	100	1,500	(2)	1,500	(2)		
All other	2,800	100	1,500	100	500	(2)	600	(2)	200	(2)
Crabs, hard	380,000	9,800			380,000	9,800				
Crabs, soft	47,000	5,600			47,000	5,600				
Shrimp	578,000	12,900					520,000	11,000	58,000	1,500
Terrapin	4,500	1,100					4,500	1,100		
Turtles	2,200	100					2,200	100		
Oysters, market, from public areas	[4] 1,197,000	78,000							[4] 1,197,000	78,000
Oysters, market, from private areas	[5] 32,000	2,700							[5] 32,000	2,700

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,229,000 pounds, valued at $81,000; cast nets, 62,000 pounds, valued at $1,900; spears, etc., 28,000 pounds, valued at $1,500; and shrimp nets, 40,000 pounds, valued at $800. [2] Less than $100. [3] Less than 100 pounds. [4] 171,000 bushels. [5] 4,500 bushels.

MISSOURI.

The fishing grounds of Missouri are the Mississippi, St. Francis, Missouri, Osage, and Gasconade Rivers and the Little River Overflow, as well as minor waters. They may be grouped in two districts, comprising, respectively, the Mississippi River with its tributaries, exclusive of the Missouri River, and the Missouri River with its tributaries. The fisheries of the state are all of the shore and boat class, no documented vessels being employed. The following is a general summary of the industry for 1908:

Number of persons employed	906
Capital:	
Boats	$25,000
Apparatus of capture	39,000
Shore and accessory property and cash	27,000
Value of products	271,000

Comparison with previous canvasses.—A comparison with the reports of the Bureau of Fisheries for former years shows considerable fluctuation in the number of persons employed, capital invested in equipment, and products. The following tabular statement gives such comparative figures for 1894, 1899, and 1908:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Boats.	Apparatus of capture.	Quantity (pounds).	Value.
1908	906	$64,000	$25,000	$39,000	6,751,000	$271,000
1899	1,125	52,000	18,000	34,000	7,551,000	211,000
1894	567	36,000	11,000	24,000	3,822,000	120,000

Persons employed.—The distribution of the persons engaged in fishing in 1908 is given in the following tabular statement. Almost three-fourths of the total number were employed in the fisheries of the Mississippi River and its tributaries other than the Missouri River. This district reported an even larger proportion of the wage-earners:

DISTRICT.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	906	[1] 746	160	$21,000
Mississippi River district	669	533	136	19,000
Missouri River district	237	213	24	2,000

[1] Exclusive of seven proprietors not fishing.

Equipment and other capital.—The following tabular statement gives the value of the equipment and the amount of other capital employed in the industry, together with the distribution of the same between the Mississippi River and the Missouri River districts:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$91,000	$71,000	$20,000
Boats	25,000	20,000	5,800
Steam and motor	11,000	9,400	1,700
Row	14,000	10,600	4,100
Apparatus of capture	39,000	30,000	8,300
Shore and accessory property	12,000	9,800	2,700
Cash	14,000	12,000	2,800

The number of boats reported was 785, which comprised 33 steam and motor and 526 row boats in the Mississippi River district and 9 steam and motor and 217 row boats in the Missouri River district.

The following tabular statement shows the number of the more important kinds of apparatus of capture used:

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Firearms	111	111	
Fyke and hoop nets	6,019	4,901	1,118
Pound nets	26	26	
Seines	188	137	51
Spears, etc.	68	68	
Trammel nets	161	85	76
Traps, muskrat and otter	1,580	1,580	

Apparatus of capture represented a little more than two-fifths of the capital invested, the balance being about equally divided between boats on the one hand and shore and accessory property and cash capital on the other.

Products.—The products of all fisheries of the state, distributed by species and apparatus of capture, are given in Table 1, on page 186. The German carp led in quantity and value, and was followed by catfish, bullheads, and buffalo fish, the catches of these four species representing nearly three-fifths of the total value of products. The frog catch was of considerable importance, while muskrat, mink, and otter skins contributed nearly 6 per cent of the total value of products.

In Tables 2 and 3, on page 187, the products are distributed by species and apparatus of capture for the two districts. The distribution of the principal

products, by species and districts, is given in the following tabular statement:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$271,000	$197,000	$74,000
Fish	241,000	168,000	74,000
Carp, German	80,000	44,000	37,000
Catfish and bullheads	51,000	37,000	15,000
Buffalo fish	30,000	25,000	4,900
Black bass	27,000	27,000	100
Crappie	17,000	16,000	1,300
Drum, fresh-water	11,000	5,900	5,500
Bream, or sunfish	9,600	8,500	1,100
Sturgeon, caviar, and paddlefish eggs	5,100	1,400	3,700
All other	11,000	5,000	6,100
Frogs	11,000	11,000	.....
Mussel shells, pearls, and slugs	1,600	1,600	.....
Skins—muskrat, mink, and otter	15,000	15,000	.....
Turtles and terrapin	400	400	.....

The distribution of the value of the products according to apparatus of capture used was as follows:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Missouri River district.
Total	$271,000	$197,000	$74,000
Fyke and hoop nets	88,000	65,000	23,000
Seines	68,000	42,000	26,400
Lines	46,000	40,000	5,000
Trammel nets	40,000	20,000	20,000
Muskrat traps	15,000	15,000	.....
All other	14,000	14,000	.....

Fyke and hoop nets are credited with the largest catch for the Mississippi River district, and seines with the largest catch for the Missouri River district.

TABLE 1.—MISSOURI—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Seines.		Lines.		Trammel nets.		Pound nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	6,751,000	$271,000	2,538,000	$88,000	1,915,000	$68,000	970,000	$46,000	1,052,000	$40,000	26,000	$1,100	248,000	$28,000
Fish:														
Black bass	329,000	27,000	43,000	3,300	61,000	5,200	201,000	16,000	24,000	1,800	.....	.....	.....	.....
Bream, or sunfish	441,000	9,600	271,000	5,800	143,000	2,900	1,900	100	25,000	800	.....	.....	.....	.....
Buffalo fish	993,000	30,000	476,000	15,000	299,000	8,700	38,000	1,400	173,000	5,200	7,000	200	.....	.....
Carp, German	2,432,000	80,000	928,000	31,000	841,000	26,000	141,000	5,100	516,000	18,000	5,000	100	.....	.....
Catfish and bullheads	1,166,000	51,000	378,000	15,000	200,000	10,000	482,000	19,000	104,000	6,300	2,500	100	.....	.....
Crappie	336,000	17,000	132,000	7,400	137,000	7,000	3,000	200	33,000	1,700	10,000	600	.....	.....
Dogfish	34,000	700	13,000	300	8,800	200	2,800	100	8,500	200	.....	.....	.....	.....
Drum, fresh-water	323,000	11,000	145,000	4,800	71,000	2,900	44,000	1,500	62,000	2,300	500	(2)	.....	.....
Eels	17,000	1,000	2,700	200	7,700	400	1,600	100	4,900	300	.....	.....	.....	.....
Paddlefish	128,000	4,000	49,000	1,400	31,000	1,700	400	(2)	26,000	900	1,500	(2)	.....	.....
Pike	58,000	1,200	12,000	300	5,800	100	41,000	800	200	(2)	.....	.....	.....	.....
Pike perch (wall-eyed pike)	34,000	2,700	9,200	700	12,000	1,000	2,600	200	11,000	800	.....	.....	.....	.....
Rock bass and white bass	300	(2)	.....	.....	300	(2)	.....	.....	(2)	(2)	.....	.....	.....	.....
Sturgeon	132,000	5,000	40,000	1,500	40,000	1,500	9,100	500	43,000	1,600	.....	.....	.....	.....
Caviar	300	100	300	100	.....	.....	(2)	(2)	(2)	(2)	.....	.....	.....	.....
Suckers	54,000	1,400	17,000	400	16,000	400	1,000	100	19,000	500	.....	.....	.....	.....
Frogs	67,000	11,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67,000	11,000
Terrapin	1,900	100	.....	.....	800	(2)	.....	.....	.....	.....	.....	.....	1,100	(2)
Turtles	23,000	400	2,700	100	20,000	300	.....	.....	800	(2)	.....	.....	.....	.....
Mussel shells	170,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170,000	1,000
Pearls and slugs	.....	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600
Skins, mink and otter	[4] 400	3,100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 400	3,100
Skins, muskrat	[5] 9,800	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 9,800	12,000

[1] Includes apparatus, with catch, as follows: Muskrat traps, etc., 10,000 pounds, valued at $15,000; guns, 46,000 pounds, valued at $7,500; spears, etc., 22,000 pounds, valued at $3,600; and crowfoot dredges, 170,000 pounds, valued at $1,600.
[2] Less than $100. [3] Less than 100 pounds. [4] 800 skins. [5] 29,000 skins.

TABLE 2.—MISSOURI—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Fyke and hoop nets.		Seines.		Lines.		Trammel nets.		Pound nets.		All other apparatus.[1]	
	Quantity (pounds.)	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	5,448,000	$197,000	2,148,000	$65,000	1,450,000	$42,000	893,000	$40,000	682,000	$20,000	26,000	$1,100	248,000	$28,000
Fish:														
Black bass	328,000	27,000	42,000	3,400	61,000	5,100	201,000	16,000	24,000	1,800	.....	.....	.....	.....
Bream, or sunfish	421,000	8,500	265,000	5,400	137,000	2,600	1,600	100	18,000	400	.....	.....	.....	.....
Buffalo fish	894,000	25,000	448,000	13,000	256,000	6,700	35,000	1,200	148,000	4,000	7,000	200	.....	.....
Carp, German	1,735,000	44,000	705,000	19,000	593,000	13,000	109,000	3,100	324,000	8,000	5,000	100	.....	.....
Catfish and bullheads	987,000	37,000	330,000	12,000	137,000	4,900	460,000	17,000	58,000	2,700	2,500	100	.....	.....
Crappie	313,000	16,000	146,000	7,000	130,000	6,600	2,100	100	25,000	1,300	10,000	600	.....	.....
Dogfish	14,000	300	6,800	200	2,500	(2)	1,700	(2)	3,100	100	.....	.....	.....	.....
Drum, fresh-water	233,000	5,900	118,000	3,100	39,000	900	38,000	1,000	38,000	900	500	(2)	.....	.....
Eels	6,500	300	600	(2)	3,700	200	800	(2)	1,400	100	.....	.....	.....	.....
Paddlefish	94,000	2,300	41,000	1,000	38,000	900	.....	.....	13,000	300	1,500	(2)	.....	.....
Pike	58,000	1,200	12,000	300	5,800	100	41,000	800	200	(2)	.....	.....	.....	.....
Pike perch (wall-eyed pike)	300	(2)	100	(2)	200	(2)	(2)	(2)	100	(2)	.....	.....	.....	.....
Rock bass and white bass	300	(2)	.....	.....	300	(2)	.....	.....	(2)	(2)	.....	.....	.....	.....
Sturgeon	54,000	1,200	18,000	400	15,000	300	3,800	100	17,000	400	.....	.....	.....	.....
Caviar and paddlefish eggs	300	100	300	100	.....	.....	(2)	(2)	(2)	(2)	.....	.....	.....	.....
Suckers	38,000	800	13,000	300	12,000	200	100	(2)	14,000	300	.....	.....	.....	.....
Frogs	67,000	11,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	67,000	11,000
Turtles and terrapin	25,000	400	2,700	100	21,000	300	.....	.....	800	(2)	.....	.....	1,100	(2)
Mussel shells	170,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170,000	1,000
Pearls and slugs	.....	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	600
Skins, mink and otter	[4] 400	3,100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 400	3,100
Skins, muskrat	[5] 9,800	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 9,800	12,000

[1] Includes apparatus, with catch, as follows: Traps, muskrat, etc., 10,000 pounds, valued at $15,000; guns, 46,000 pounds, valued at $7,500; spears, etc., 22,000 pounds, valued at $3,600; and crowfoot dredges, 170,000 pounds, valued at $1,600.
[2] Less than $100. [3] Less than 100 pounds. [4] 800 skins. [5] 29,000 skins.

TABLE 3.—MISSOURI—FISHERY PRODUCTS OF MISSOURI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Fyke and hoop nets.		Trammel nets.		Lines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,303,000	$74,000	465,000	$26,000	391,000	$23,000	370,000	$20,000	77,000	$5,400
Black bass	1,300	100	700	100	400	(1)	100	(1)	100	(1)
Bream, or sunfish	20,000	1,100	6,300	300	5,900	300	7,800	400	400	(1)
Buffalo fish	99,000	4,900	43,000	2,100	28,000	1,500	25,000	1,200	3,500	200
Carp, German	697,000	37,000	248,000	13,000	224,000	12,000	192,000	10,000	33,000	2,000
Catfish and bullheads	179,000	15,000	63,000	5,200	47,000	4,100	46,000	3,600	23,000	1,900
Crappie	23,000	1,300	6,900	400	6,500	400	8,800	500	900	100
Dogfish	20,000	400	6,200	100	5,900	100	6,400	100	1,200	(1)
Drum, fresh-water	90,000	5,500	33,000	1,900	27,000	1,700	24,000	1,400	5,900	400
Eels	10,000	700	4,000	200	2,100	100	3,500	200	800	(1)
Paddlefish	35,000	1,700	13,000	700	7,900	300	13,000	600	400	(1)
Pike perch (wall-eyed pike)	34,000	2,700	12,000	900	9,200	700	11,000	800	2,600	200
Sturgeon	78,000	3,700	25,000	1,200	22,000	1,100	26,000	1,200	5,300	400
Suckers	16,000	600	4,900	200	4,700	200	5,600	200	1,000	100

[1] Less than $100.

NEBRASKA.

In 1908 commercial fishing in this state was confined to shore and boat fishing in the Missouri River. The products comprised seven species, of which the chief was German carp. The other kinds of fish taken, named in the order of the value of the catch, were catfish, buffalo fish, paddlefish, sturgeon, fresh-water drum, and pike perch, or wall-eyed pike. The following statement gives a summary of the principal statistics of the industry for 1908:

Number of persons employed	129
Capital:	
Boats	$1,300
Apparatus of capture	2,500
Shore and accessory property	600
Value of products	22,000

Comparison with previous canvasses.—While, in the number of persons employed, value of boats, and quantity of product, the figures for 1908 show decreases, as compared with previous canvasses, there has been a decided increase in the value of the apparatus of capture and in the value of the product. The following tabular statement gives the principal statistics for 1894, 1899, and 1908:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Boats.	Apparatus of capture.	Quantity (pounds).	Value.
1908	129	$3,800	$1,300	$2,500	399,000	$22,000
1899	142	3,300	1,400	1,900	367,000	16,000
1894	76	2,200	500	1,700	340,000	14,000

Persons employed.—The Nebraska fisheries furnished employment for 129 persons in 1908. Of these, 115 were proprietors and independent fishermen and 14 were wage-earners. The wage-earners received $900 in wages during the year.

Equipment and other capital.—The capital invested in the industry was distributed as follows: Rowboats, $1,300; apparatus of capture, $2,500; and shore and accessory property, $600.

There were 96 boats reported, and their value was slightly less than the value of boats reported in 1899, but over twice that reported in 1894. The total investment in apparatus of capture in 1908 shows a considerable increase over the amount reported for this item in 1899.

In 1908, 38 seines, 217 fyke and hoop nets, 60 pots and traps, and 32 trammel nets were reported.

Products.—The fishery products of the state, distributed by species and apparatus of capture, are given in the following table.

The leading species was German carp, which represented 64 per cent of the weight of all the fishery products of Nebraska and 53 per cent of the total value. The catch of this fish has increased greatly within the past few years, as a quantity valued at only $100 was caught in 1894, and none was reported in 1899. The catfish product, 66,000 pounds, valued at $6,600, was considerably smaller in quantity but somewhat larger in value than that reported in 1899, which was 85,000 pounds, valued at $6,100. The catch of buffalo fish, 43,000 pounds, was less than a third of that reported in 1899, 138,000 pounds; but a comparison of the respective values of the two catches, $2,200 for that of 1908 and $4,900 for that of 1899, shows an increase in the average price per pound. The quantity of this fish reported in 1894 was 169,000 pounds, valued at $7,000.

The catch of sturgeon in 1908 was somewhat less in quantity and in value than in 1899, while that of paddlefish was greater both in quantity and in value.

NEBRASKA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Trammel nets.		Lines.		Fyke and hoop nets.		Fish pots and traps.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	399,000	$22,000	164,000	$8,500	124,000	$7,000	42,000	$3,100	54,000	$3,000	15,000	$800
Buffalo fish	43,000	2,200	20,000	1,000	11,000	500	2,500	200	9,100	500	1,000	(1)
Carp, German	254,000	12,000	102,000	4,500	91,000	4,600	14,000	600	36,000	1,600	11,000	400
Catfish	66,000	6,600	21,000	2,100	14,000	1,400	20,000	2,000	8,700	900	3,000	300
Drum, fresh-water	4,900	300	2,300	100	2,200	200	.....	.....	200	(1)	200	(1)
Paddlefish	20,000	800	17,000	600	3,000	200	.....	.....	.....	.....	.....	.....
Pike perch (wall-eyed pike)	100	(1)	(2)	(1)	100	(1)	.....	.....	.....	.....	.....	.....
Sturgeon	11,000	600	2,300	100	3,200	200	5,600	300	.....	.....	.....	.....

[1] Less than $100.

[2] Less than 100 pounds.

NEW HAMPSHIRE.

New Hampshire has but one county bordering upon the Atlantic Ocean, and its fisheries, which are all of the shore and boat class, are of relatively small importance. The principal statistics for 1908 are given in the following statement:

Number of persons employed	79
Capital:	
Boats	$13,000
Apparatus of capture	10,000
Shore and accessory property and cash	200
Value of products	53,000

As early as 1888 the Bureau of Fisheries reported that there had been a considerable diminution in the importance of the fisheries of the state, a decrease being evident in the number of persons employed, in the amount of capital invested, and in the quantity and value of the products. This downward tendency has, on the whole, continued, although the heavy decrease in the quantity of products since 1898 has been accompanied by an increase in their value. Furthermore, since 1905 the investment in equipment has increased, as shown in the following tabular statement:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	79	$23,000	$13,000	$10,000	677,000	$53,000
1905	132	18,000	8,200	9,600	1,036,000	52,000
1902	147	24,000	12,000	11,000	1,593,000	50,000
1898	143	25,000	13,000	12,000	3,021,000	49,000
1888	329	64,000	41,000	23,000	3,843,000	90,000

Of the 79 persons employed in 1908, 78 were proprietors and independent fishermen, and only one was reported as a wage-earner.

The following tabular statement shows the investment in the New Hampshire fisheries in 1908:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.	
	Number.	Value.
Total	.....	$23,000
Boats	80	13,000
Steam and motor	36	11,000
Sail	17	1,400
Row	27	800
Apparatus of capture	.....	10,000
Shore and accessory property	.....	(1)
Cash	.....	200

[1] Less than $100.

Six gill nets, 2,730 lobster pots, 3 moss rakes, and 11 weirs were reported.

Statistics concerning the fishery products of the state, distributed according to species and apparatus of capture, are given in the tabular statement at the end of this section. In 1908 the value of lobsters constituted 81 per cent of the value of all products. The lobster product has increased rapidly in quantity and more rapidly in value since the canvass of 1888, as shown below:

YEAR.	LOBSTER PRODUCT.	
	Quantity (pounds).	Value.
1908	264,000	$43,000
1905	256,000	33,000
1898	109,000	9,400
1888	136,000	6,300

In other respects the fisheries of New Hampshire have suffered a decrease in importance. In 1888 the catch of cod was 1,426,000 pounds, valued at $29,000; that of haddock was 1,069,000 pounds, valued at $20,000; and that of halibut 143,000 pounds, valued at $12,000. Compared with these figures the totals for 1908 were very small, as may be seen from the tabular statement given below:

SPECIES.	FISHERY PRODUCTS: 1908.					
	Total.		Product caught by—			
			Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	677,000	$53,000	211,000	$5,500	467,000	$48,000
Fish:						
Alewives	121,000	1,800	.....	.....	121,000	1,800
Cod	135,000	3,900	91,000	2,500	44,000	1,400
Haddock	100,000	2,700	100,000	2,700	.....	.....
Hake	13,000	100	13,000	100	.....	.....
Pollack	6,300	100	6,300	100	.....	.....
Smelt	2,600	300	.....	.....	2,600	300
Lobsters	264,000	43,000	.....	.....	264,000	43,000
Irish moss	35,000	1,400	.....	.....	35,000	1,400

[1] Includes apparatus, with catch, as follows: Lobster pots, 264,000 pounds, valued at $43,000; pound nets and weirs, 124,000 pounds, valued at $2,100; gill nets, 44,000 pounds, valued at $1,400; and rakes, 35,000 pounds, valued at $1,400.

NEW JERSEY.

In 1908 New Jersey ranked eighth in value of fishery products, with a catch valued at $3,069,000. Oysters were the leading product, their value forming 45 per cent of the total value of the fishery products of the state; while squeteague, hard clams, and shad were other prominent varieties. Delaware Bay, the Lower Bay, and the numerous coves and inlets along the coast are among the more important fishing grounds of the state.

The following statement gives the principal statistics for the fisheries of the state in 1908:

Number of persons employed	7,231
Capital:	
Vessels and boats, including outfit	$1,100,000
Apparatus of capture	345,000
Shore and accessory property and cash	269,000
Value of products	3,069,000

Comparison with previous canvasses.—A comparison of the general statistics for 1908 with similar items for previous years shows that there has been a marked decline in the magnitude of the industry since 1897, following a gain between 1891 and 1897. Such a comparison is made in the following tabular statement:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	7,145	$1,445,000	$1,100,000	$345,000	74,827,000	$3,069,000
1904	8,293	1,348,000	1,135,000	413,000	90,108,000	3,385,000
1897	11,884	1,634,000	1,252,000	382,000	103,783,000	3,614,000
1891	10,107	1,519,000	1,198,000	322,000	79,116,000	3,520,000

Persons employed.—The following tabular statement gives statistics as to the persons employed in the fisheries of New Jersey in 1908:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	7,231	[1] 4,041	4	3,186	$744,000	$1,500	[2] $742,000
Vessel fisheries	2,329	335	4	1,990	399,000	1,500	398,000
Transporting vessels	115	39	.....	76	20,000	.....	20,000
Shore and boat fisheries	4,701	3,667	.....	1,034	300,000	.....	300,000
Shoresmen	86	.....	.....	86	24,000	.....	24,000

[1] Exclusive of 75 proprietors not fishing.
[2] Includes provisions furnished to the value of $138,000.

Of the shoresmen, 82 were employed in the shore and boat fisheries and 4 in the vessel fisheries. Including shoresmen, 4,783 persons were engaged in the shore and boat fisheries and 2,333 in the vessel fisheries. The proprietors and independent fishermen outnumbered the salaried employees and wage-earners, owing to the preponderance of independent fishermen among those engaged in the shore and boat fisheries.

Equipment and other capital.—The statistics of capital invested are shown in the next table.

The value of the vessels and their outfits and boats amounted to $1,100,000 and formed 64 per cent of the total investment. Contrary to the general rule in coast fisheries, both the number and the value of power vessels and boats were greater than those of sail vessels and sailboats, there being 1,176 of the former class, valued with their outfits at $849,000, and 1,002 of the latter, valued with their outfits at $203,000. Of the total value of craft, including outfit, 60 per cent represented the investment in the vessels of the vessel fisheries; 36 per cent that in the boats of shore and boat fisheries; and 5 per cent that in transporting vessels. Of the investment in shore and accessory property, $164,000 pertained to shore and boat fisheries; $34,000 to vessel fisheries; and $2,200 to transporting vessels. The cash reported was as follows: $59,000 for shore and boat fisheries; $9,400 for vessel fisheries; and $800 for transporting vessels. The total investment in the shore and boat fisheries was $932,000 and that in the vessel fisheries $727,000.

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$1,714,000	.....	.....
Vessels, including outfit	709,000	435	4,906
Fishing	658,000	391	4,446
Steam and motor	546,000	255	3,221
Vessels	453,000	.....	.....
Outfit	93,000	.....	.....
Sail	111,000	129	1,225
Vessels	93,000	.....	.....
Outfit	18,000	.....	.....
Other	200	7	.....
Transporting	52,000	44	520
Steam and motor	36,000	23	200
Vessels	31,000	.....	.....
Outfit	5,100	.....	.....
Sail	16,000	21	320
Vessels	13,000	.....	.....
Outfit	2,800	.....	.....
Boats	391,000	3,843	.....
Steam and motor	266,000	898	.....
Sail	76,000	852	.....
Row	39,000	1,654	.....
Other	9,600	439	.....
Apparatus of capture	345,000	.....	.....
Vessel fisheries	26,000	.....	.....
Shore and boat fisheries	318,000	.....	.....
Shore and accessory property	200,000	.....	.....
Cash	69,000	.....	.....

Apparatus of capture was valued at $345,000, the greater part of which amount, $318,000, or 92 per cent, is credited to the shore and boat fisheries. The distribution of the principal kinds of apparatus of capture reported between the vessel fisheries and the shore and boat fisheries was as follows:

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Used in—	
		Vessel fisheries.	Shore and boat fisheries.
Dip nets	183	.....	183
Eel pots	4,300	87	4,213
Fyke and hoop nets	1,791	80	1,711
Gill nets	2,243	189	2,054
Harpoons, spears, etc	19	.....	19
Lobster pots	4,191	280	3,911
Muskrat traps	2,564	.....	2,564
Pound and trap nets	350	.....	350
Seines	246	24	222
Shrimp nets	5	.....	5
Trammel nets	2	.....	2

Products, by species.—Table 1, on page 193, gives the products, by species and apparatus of capture.

The leading species, named in the order of quantity taken, were oysters, menhaden, squeteague, king crabs, cod, whiting, sea bass, and shad; while named according to value, they were oysters, squeteague, hard clams, shad, cod, and sea bass.

Products, by class of fisheries.—Table 3, on page 195, gives the statistics of the vessel fisheries, by species and by apparatus of capture; and Table 2, on page 194, gives similar statistics for the shore and boat fisheries. The following tabular statement distributes the total value of products by species and by class of fisheries, only those products for which a value in excess of $10,000 was reported being shown separately:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,069,000	$1,196,000	$1,873,000
Fish	1,365,000	186,000	1,179,000
Squeteague	342,000	13,000	329,000
Shad	229,000	.....	229,000
Cod	130,000	90,000	40,000
Sea bass	123,000	40,000	84,000
Bluefish	99,000	4,700	94,000
Butterfish	51,000	(1)	51,000
Silver hake	44,000	.....	44,000
Menhaden	43,000	13,000	30,000
Scup	35,000	17,000	18,000
Flounders	25,000	400	25,000
Sturgeon and caviar	23,000	2,100	21,000
Eels	22,000	700	21,000
Bonito	22,000	200	22,000
Croaker	19,000	2,900	16,000
Carp, German	16,000	.....	16,000
Mackerel	14,000	2,200	12,000
Alewives	12,000	.....	12,000
Perch, white	11,000	200	11,000
All other	43,000	.....	43,000
Oysters	1,369,000	988,000	380,000
Market	884,000	575,000	309,000
Seed	485,000	413,000	71,000
Clams	337,000	17,000	319,000
Crabs	34,000	3,700	30,000
Lobster	16,000	800	15,000
All other	9,000	200	8,800

[1] Less than $100.

Products, by apparatus of capture.—The following tabular statement shows, for each class of fisheries, the distribution by apparatus of capture of the total value of products for the state, only those forms of apparatus which took products having a value in excess of $10,000 being shown separately.

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,069,000	$1,196,000	$1,873,000
Dredges, tongs, etc	1,703,000	1,009,000	694,000
Pound and trap nets	539,000	.....	539,000
Lines	332,000	137,000	196,000
Gill nets	310,000	4,400	305,000
Seines	108,000	44,000	65,000
Eel and lobster pots and traps	32,000	1,400	30,000
Fyke and hoop nets	22,000	100	22,000
All other	23,000	.....	23,000

Dredges, tongs, etc., pound and trap nets, lines, gill nets, and seines, ranking with respect to the value of the product taken by them in the order named, were employed in taking fishery products representing 98 per cent of the total value of the product of the state.

Dredges, tongs, etc., show a catch far in excess of that of other apparatus. The product taken by these implements in the vessel fisheries was nearly three times as heavy as that taken in the shore and boat fisheries, but less than twice as valuable.

The catch with pound and trap nets included a large number of species. Over one-half of the value of their catch represented the value of squeteague taken. Butterfish, silver hake, menhaden, and whiting were other important species in the pound and trap net catch. Of the value of the line catch, more than two-thirds represented the value of sea bass and cod. A little over two-fifths of the product taken with lines was reported for vessel fisheries and almost three-fifths for shore and boat fisheries. In the former class of fisheries cod was the leading species with respect to value, and sea bass was second in rank, the two together contributing 3,376,000 pounds, valued at $128,000, out of the total line catch of 3,576,000 pounds, valued at $137,000. Of the line catch of the shore and boat fisheries, which aggregated 4,806,000 pounds and was valued at $196,000, sea bass contributed 1,944,000 pounds, valued at $76,000, and bluefish 808,000 pounds, valued at $44,000, while the large remainder included a number of species.

Gill nets were used chiefly in the shore and boat fisheries. Much more than half of the catch by these nets consisted of shad.

The value of the catch by seines was less than that of the product taken by any other of the five forms of apparatus discussed. Products taken by seines were reported for both the shore and boat fisheries and the vessel fisheries, 2,582,000 pounds, valued at $65,000, being credited to the former and 7,067,000 pounds, valued at $44,000, to the latter. In the shore and boat fisheries, the products of greatest value taken by seines were shad, squeteague, and alewives. Of the seine catch reported for the vessel fisheries, menhaden contributed 5,884,000 pounds, or 83 per cent.

Oysters.—Oysters were the chief fishery product in New Jersey, as in most of the Middle and South Atlantic states. The total quantity taken in this state was 2,586,000 bushels, the value of which, $1,369,000, represents 45 per cent of the value of all the fishery products of New Jersey. This ratio, however, was less than that of former years, as shown by the following tabular statement:

YEAR.	VALUE OF FISHERY PRODUCTS.		
	All species.	Oysters.	
		Amount.	Per cent of total.
1908	$3,069,000	$1,369,000	45
1904	3,385,000	1,692,000	50
1897	3,614,000	1,682,000	47
1880	3,177,000	2,081,000	66

Nearly two-thirds of the oyster product in 1908, or 1,667,000 bushels, consisted of seed oysters, but the value of these, $485,000, was only a little more than one-third of the value of the entire oyster yield. Of the seed oysters, 772,000 bushels, valued at $236,000, came from public areas, and 895,000 bushels, valued at $248,000, from private areas. There has been a marked growth since 1904 in the seed-oyster product from private areas. In that year the yield of seed

oysters was 826,000 bushels, valued at $393,000, but of this only 1,300 bushels, valued at $500, came from private beds. Between 1904 and 1908, therefore, the seed oysters from private areas increased 894,000 bushels in quantity and $248,000 in value; while the seed product from public areas decreased 53,000 bushels in quantity and $157,000 in value.

In the case of the market oysters essentially all of the product is taken from private areas, only 15,000 bushels, valued at $12,000, out of the total market oyster product of 920,000 bushels, valued at $884,000, being from public areas in 1908. In quantity the oysters reported for the vessel fisheries exceeded those from the shore and boat fisheries in the proportion of nearly five to one. The vessel catch comprised chiefly seed oysters. The following tabular statement gives the distribution of the oyster product between the vessel fisheries and the shore and boat fisheries and between public and private beds:

KIND AND SOURCE.	OYSTER PRODUCT: 1908.					
	Total.		Vessel fisheries.		Shore and boat fisheries.	
	Quantity (bushels).	Value.	Quantity (bushels).	Value.	Quantity (bushels).	Value.
Total	2,586,000	$1,369,000	2,122,000	$988,000	464,000	$380,000
Market oysters	920,000	884,000	628,000	575,000	292,000	309,000
From public areas	15,000	12,000	4,500	2,300	11,000	9,600
From private areas	904,000	872,000	623,000	573,000	281,000	299,000
Seed oysters	1,667,000	485,000	1,494,000	413,000	173,000	71,000
From public areas	772,000	236,000	623,000	173,000	148,000	63,000
From private areas	895,000	248,000	871,000	240,000	24,000	8,100

Squeteague.—Squeteague ranked second in value among the products of the New Jersey fisheries. Practically all of the catch of this species was taken in the shore and boat fisheries. The quantity and the value of the catch have increased steadily, as is shown by the following comparison with previous canvasses:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	11,814,000	$342,000
1904	10,699,000	253,000
1897	8,679,000	181,000
1880	4,430,000	133,000

Hard clams.—Hard clams ranked next to squeteague in value, nearly all of the product being from the shore and boat fisheries. The following statement shows that the hard-clam product has been decreasing in value since 1897:

YEAR.	HARD-CLAM PRODUCT.	
	Quantity (bushels).	Value.
1908	273,000	$318,000
1904	271,000	352,000
1897	591,000	544,000
1880	392,000	196,000

Shad.—This species ranked fourth, with a catch valued at $229,000. All of the shad product was taken by the shore and boat fisheries. The decrease from the amounts reported in former years has been considerable, as indicated in the following statement:

YEAR.	SHAD PRODUCT.	
	Quantity (pounds).	Value.
1908	3,004,000	$229,000
1904	4,338,000	239,000
1897	13,001,000	343,000

Cod.—The cod product of New Jersey in 1908 was 3,767,000 pounds, valued at $130,000. More than three-fifths of this quantity was taken in the vessel fisheries. The total catch of 1904 was far below that of 1897 or of 1908, as may be seen from the comparative statistics which follow.

YEAR.	COD PRODUCT.	
	Quantity (pounds).	Value.
1908	3,767,000	$130,000
1904	1,262,000	54,000
1897	3,482,000	71,000

Sea bass.—Another important species was sea bass. About two-thirds of the product was taken in shore and boat fisheries. The catch has steadily increased since 1897, as the following comparison shows:

YEAR.	SEA-BASS PRODUCT.	
	Quantity (pounds).	Value.
1908	3,161,000	$123,000
1904	2,572,000	98,000
1897	2,131,000	74,000

TABLE 1.—NEW JERSEY—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Pound and trap nets.		Lines.		Gill nets.		Seines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	74,827,000	$3,069,000	30,285,000	$539,000	8,382,000	$332,000	4,515,000	$310,000	9,649,000	$108,000	449,000	$22,000	21,548,000	$1,758,000
Fish:														
Alewives	1,309,000	12,000	270,000	3,200	400	(2)	14,000	100	1,015,000	8,200	2,400	100	6,000	(2)
Bluefish	1,850,000	99,000	204,000	12,000	871,000	48,000	737,000	37,000	24,000	1,400	14,000	800		
Bonito	578,000	22,000	378,000	14,000	192,000	7,900	2,800	100	2,200	100	2,500	200		
Butterfish	2,054,000	51,000	2,030,000	51,000	14,000	400	4,200	200	200	(2)				
Carp, German	220,000	16,000	20,000	1,800			165,000	11,000	34,000	2,900	800	(2)		
Catfish	63,000	5,300	5,500	400			22,000	1,900	31,000	2,500	4,200	500	100	(2)
Cod	3,767,000	130,000	845,000	20,000	2,930,000	110,000					1,000	100		
Croaker	790,000	19,000	457,000	10,000	241,000	7,000			93,000	2,100				
Eels	253,000	22,000	2,700	200	200	(2)	4,500	400	30,000	2,500	22,000	2,400	193,000	16,000
Flounders	650,000	25,000	195,000	6,500	114,000	4,800	28,000	1,100	38,000	1,700	273,000	11,000		
Haddock	20,000	600	11,000	200	8,400	300								
Hake	181,000	1,600	175,000	1,400	2,000	(2)	1,200	(2)	2,200	100				
Horse mackerel	207,000	5,000	207,000	5,600										
Kingfish	35,000	3,400	5,900	700	30,000	2,000	3,400	300	4,300	400	800	100		
Mackerel	501,000	14,000	460,000	9,700			37,000	4,200	100	(2)	2,900	200		
Menhaden	12,417,000	43,000	5,807,000	28,000			18,000	100	6,582,000	14,000	10,000	200		
Mullet	7,600	300					1,500	100	6,100	300				
Perch, white	140,000	11,000	5,800	200	21,000	1,400	40,000	3,600	63,000	5,000	9,500	800	200	(2)
Perch, yellow	17,000	1,300	1,400	100	1,400	100	5,500	400	6,000	500	2,200	200		
Pollack	84,000	1,100	84,000	1,100	500	(2)								
Scup	1,196,000	35,000	324,000	9,400	286,000	10,000	500	(2)	583,000	16,000	3,000	200		
Sea bass	3,161,000	125,000	131,000	6,900	2,971,000	114,000	1,400	(2)	46,000	2,100	10,000	400		
Sea robin	62,000	200	62,000	200										
Shad	3,004,000	229,000	59,000	5,300	1,700	100	2,748,000	208,000	174,000	15,000	21,000	1,800		
Silver hake	3,708,000	44,000	3,522,000	41,000	53,000	800	123,000	2,000			10,000	200		
Smelt	7,500	1,500							7,500	1,500				
Spanish mackerel	7,100	1,800	6,000	1,600	300	100	800	200						
Spot	255,000	3,100	247,000	2,800	3,600	200			4,500	200				
Squeteague	11,814,000	342,000	10,035,000	281,000	552,000	21,000	385,000	14,000	815,000	24,000	28,000	1,300		
Striped bass	53,000	7,400	10,000	1,100	7,400	900	8,600	1,600	19,000	2,700	7,700	1,000		
Sturgeon	132,000	13,000	12,000	1,200			120,000	12,000						
Caviar	9,700	10,000	900	1,000			8,800	9,000						
Suckers	74,000	5,900					29,000	2,600	44,000	3,300	400	(2)	400	(2)
Tautog	112,000	3,500	5,300	100	84,000	2,400	1,300	100	22,000	900	200	(2)		
Tomcod	11,000	300			11,000	300								
All other	19,000	400	11,000	200	3,900	100	2,600	(2)	1,700	100				
Crabs, hard	282,000	9,100	500	(2)							20,000	200	261,000	8,900
Crabs, soft	63,000	6,200			1,000	100			2,000	200			60,000	5,900
Crabs, king	4,607,000	18,000	4,583,000	18,000									24,000	100
Lobster	115,000	16,000											115,000	16,000
Shrimp	4,900	1,000	100	200									3,900	800
Squid	100,000	3,100	100,000	3,100										
Terrapin	1,100	1,000											1,100	1,000
Turtles	5,500	300	3,300	100	400	(2)					1,800	200	100	(2)
Mussels	[3] 287,000	1,400											[3] 287,000	1,400
Clams, hard	[4] 2,184,000	318,000											[4] 2,184,000	318,000
Clams, soft	[5] 205,000	11,000											[5] 205,000	11,000
Clams, surf	[6] 99,000	7,000											[6] 99,000	7,000
Oysters, market, from public areas	[7] 107,000	12,000											[7] 107,000	12,000
Oysters, market, from private areas	[8] 6,330,000	872,000											[8] 6,330,000	872,000
Oysters, seed, from public areas	[9] 5,402,000	236,000											[9] 5,402,000	236,000
Oysters, seed, from private areas	[10] 6,266,000	248,000											[10] 6,266,000	248,000
Skins, mink and muskrat	[11] 3,000	2,300											[11] 3,000	2,300

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 21,049,000 pounds, valued at $1,703,000; eel and lobster traps and pots, 299,000 pounds, valued at $32,000; dip nets, 113,000 pounds, valued at $9,600; minx and muskrat traps, 3,000 pounds, valued at $2,300; spears, 9,200 pounds, valued at $800; shrimp nets, 3,300 pounds, valued at $800; and minor apparatus, 70,000 pounds, valued at $9,900.

[2] Less than $100.

[3] 29,000 bushels.

[4] 273,000 bushels.

[5] 20,000 bushels.

[6] 12,000 bushels.

[7] 15,000 bushels.

[8] 904,000 bushels.

[9] 772,000 bushels.

[10] 895,000 bushels.

[11] 9,100 skins.

TABLE 2.—NEW JERSEY—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Lines.		Seines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	49,007,000	$1,873,000	30,285,000	$539,000	4,485,000	$305,000	4,806,000	$196,000	2,582,000	$65,000	447,000	$22,000	6,402,000	$747,000
Fish:														
Alewives	1,309,000	12,000	270,000	3,200	14,000	100	400	(2)	1,015,000	5,200	2,400	100	6,000	(2)
Bluefish	1,779,000	94,000	204,000	12,000	737,000	37,000	808,000	44,000	17,000	1,100	14,000	800		
Bonito	574,000	22,000	378,000	14,000	2,800	100	190,000	7,800						
Butterfish	2,054,000	51,000	2,036,000	51,000	4,200	200	14,000	400			2,500	200		
Carp, German	223,000	16,000	20,000	1,800	165,000	11,000			34,000	2,900	800	(2)		
Catfish	63,000	5,300	5,500	400	22,000	1,900			31,000	2,500	4,200	500	100	(2)
Cod	1,417,000	40,000	845,000	20,000			571,000	20,000			1,000	100		
Croaker	661,000	16,000	457,000	10,000			198,000	6,100	6,000	100				
Eels	242,000	21,000	2,700	200	4,500	400	200	(2)	28,000	2,700	22,000	2,400	184,000	16,000
Flounders	638,000	25,000	195,000	6,500	28,000	1,100	110,000	4,700	33,000	1,500	271,000	11,000		
Haddock	20,000	600	11,000	200			8,400	300						
Hake	181,000	1,600	175,000	1,400	1,200	(2)	2,000	(2)	2,200	100				
Horse mackerel	207,000	5,600	207,000	5,600										
Kingfish	35,000	3,400	5,900	700	3,400	300	20,000	2,000	4,300	400	800	100		
Mackerel	482,000	12,000	460,000	9,700	18,000	2,000					2,800	200		
Menhaden	6,533,000	30,000	5,807,000	28,000	18,000	100			698,000	1,400	10,000	200		
Mullet	7,600	300			1,500	100			6,100	300				
Perch, white	138,000	11,000	5,800	200	39,000	3,500	21,000	1,400	63,000	5,000	9,500	800	200	(2)
Perch, yellow	17,000	1,300	1,400	100	5,500	400	1,400	100	6,000	500	2,200	200		
Pollack	84,000	1,100	84,000	1,100			500	(2)						
Scup	583,000	19,000	324,000	9,400	500	(2)	231,000	8,300	25,000	1,000	3,000	200		
Sea bass	2,085,000	84,000	131,000	6,900	1,400	(2)	1,944,000	76,000	400	(2)	10,000	400		
Sea robin	62,000	200	62,000	200										
Shad	3,004,000	229,000	59,000	5,200	2,748,000	208,000	1,700	100	174,000	15,000	21,000	1,800		
Silver hake	3,708,000	44,000	3,522,000	41,000	123,000	2,000	53,000	800			10,000	200		
Smelt	7,500	1,800							7,500	1,500				
Spanish mackerel	7,100	1,800	6,000	1,600	800	200	300	100						
Spot	255,000	3,100	247,000	2,800			3,700	200	4,500	200				
Squeteague	11,306,000	329,000	10,035,000	281,000	385,000	14,000	520,000	20,000	338,000	13,000	28,000	1,300		
Striped bass	53,000	7,400	10,000	1,100	8,600	1,600	7,400	900	19,000	2,700	7,700	1,000		
Sturgeon	123,000	12,000	12,000	1,200	111,000	11,000								
Caviar	8,700	8,800	900	1,000	7,700	7,800								
Suckers	74,000	5,900			29,000	2,600			44,000	3,300	400	(2)	400	(2)
Tautog	112,000	3,500	5,300	100	1,300	100	84,000	2,400	2,200	900	200	(2)		
Tomcod	11,000	200					11,000	200						
All other	19,000	400	11,000	200	2,600	(2)	3,900	100	1,700	100				
Crabs, hard	186,000	5,400	500	(2)							20,000	200	165,000	5,200
Crabs, soft	63,000	6,200					1,000	100	2,000	200			60,000	5,900
Crabs, king	4,607,000	18,000	4,583,000	18,000									24,000	100
Lobster	109,000	15,000											109,000	15,000
Shrimp	4,900	1,000	1,000	200									3,900	800
Squid	100,000	3,100	100,000	3,100										
Terrapin	1,100	1,000											1,100	1,000
Turtles	5,500	300	3,300	100			400	(2)			1,800	200	100	(2)
Mussels	[3] 247,000	1,200											[3] 247,000	1,200
Clams, hard	[4] 2,043,000	301,000											[4] 2,043,000	301,000
Clams, soft	[5] 295,000	11,000											[5] 295,000	11,000
Clams, surf	[6] 99,000	7,000											[6] 99,000	7,000
Oysters, market, from public areas	[7] 75,000	9,600											[7] 75,000	9,600
Oysters, market, from private areas	[8] 1,967,000	299,000											[8] 1,967,000	299,000
Oysters, seed, from public areas	[9] 1,038,000	63,000											[9] 1,038,000	63,000
Oysters, seed, from private areas	[10] 170,000	8,100											[12] 170,000	8,100
Skins, mink and muskrat	[11] 3,000	2,300											[11] 3,000	2,300

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 5,919,000 pounds, valued at $694,000; eel and lobster pots and traps, 284,000 pounds, valued at $30,000; dip nets, 153,000 pounds, valued at $9,600; mink and muskrat traps, 3,000 pounds, valued at $2,300; spears, 9,200 pounds, valued at $800; shrimp nets, 3,900 pounds, valued at $800; and minor apparatus, 70,000 pounds, valued at $9,900.

[2] Less than $100.

[3] 25,000 bushels.

[4] 255,000 bushels.

[5] 20,000 bushels.

[6] 12,000 bushels.

[7] 11,000 bushels.

[8] 281,000 bushels.

[9] 148,000 bushels.

[10] 24,000 bushels.

[11] 9,100 skins.

TABLE 3.—NEW JERSEY—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Dredges, tongs, etc.		Lines.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	25,820,000	$1,196,000	15,130,000	$1,059,000	3,576,000	$137,000	7,067,000	$44,000	47,000	$6,000
Fish:										
Bluefish	71,000	4,700			64,000	4,400	7,100	300		
Bonito	4,100	200			1,900	100	2,200	100		
Butterfish	200	(2)					200	(2)		
Cod	2,349,000	90,000			2,349,000	90,000				
Croaker	129,000	2,900			43,000	900	87,000	2,000		
Eels	11,000	700					1,700	100	9,200	600
Flounders	11,000	400			4,400	200	5,000	200	2,000	100
Mackerel	19,000	2,200					100	(2)	19,000	2,200
Menhaden	5,884,000	13,000					5,884,000	13,000		
Perch, white	1,500	200							1,500	200
Scup	613,000	17,000			55,000	1,900	558,000	15,000		
Sea bass	1,073,000	40,000			1,027,000	38,000	46,000	2,100		
Squeteague	508,000	13,000			32,000	1,300	476,000	11,000		
Sturgeon	8,700	1,000							8,700	1,000
Caviar	1,000	1,100							1,000	1,100
Crabs, hard	95,000	3,700	95,000	3,700						
Lobster	6,100	800							6,100	800
Mussels	[3] 40,000	200	[3] 40,000	200						
Clams, hard	[4] 140,000	17,000	[4] 140,000	17,000						
Oysters, market, from public areas	[5] 32,000	2,300	[5] 32,000	2,300						
Oysters, market, from private areas	[6] 4,363,000	573,000	[6] 4,363,000	573,000						
Oysters, seed, from public areas	[6] 4,364,000	173,000	[6] 4,364,000	173,000						
Oysters, seed, from private areas	[7] 6,096,000	240,000	[7] 6,096,000	240,000						

[1] Includes apparatus, with catch, as follows: Gill nets, 30,000 pounds, valued at $4,400; eel and lobster pots and traps, 15,000 pounds, valued at $1,400; and fyke and hoop nets, 2,000 pounds, valued at $100.

[2] Less than $100.

[3] 4,000 bushels.

[4] 18,000 bushels.

[5] 4,500 bushels.

[6] 623,000 bushels.

[7] 871,000 bushels.

NEW YORK.

In the value of fishery products New York ranked third in 1908, being surpassed only by Massachusetts and Virginia. The total value of such products was $4,594,000, or 9 per cent of the total for the United States. The chief fishing grounds of the state are Lake Erie, Lake Ontario, the Hudson River, Long Island Sound, and the Atlantic coast region. The first two bodies of water are included in the Great Lakes district, while the remainder constitute the Atlantic coast district. New York is thus peculiar in having both fresh and salt water fisheries of considerable importance and in having fresh-water fisheries in the two natural divisions, the Hudson River being included in the Atlantic coast district.

A summary of the general statistics of the fisheries of the state for 1908 is given in the following statement:

Number of persons employed	6,775
Capital:	
Vessels and boats, including outfit	$2,058,000
Apparatus of capture	362,000
Shore and accessory property and cash	1,413,000
Value of products	4,594,000

Comparison with previous canvasses.—Prior to the census of 1908 no report covering all of the fisheries of New York had been made for any one year, although statistics of the fisheries of Lake Erie and Lake Ontario have been included since 1880 in canvasses of the Great Lakes, and figures for the fisheries of the state along the Atlantic coast have been shown in the reports of the Middle Atlantic states.

In the next table the principal items from the reports on the fisheries of these two districts are given, and composite figures for certain combinations of years are presented as totals for the state.

The number of persons employed as shoresmen and the investment in shore and accessory property and cash capital are excluded from the next table because, owing to the fact that the reports of the Bureau of Fisheries for certain years included with the above items, respectively, the number of men and the amount of capital employed in the wholesale fishery trade and in shore industries related to the fisheries, the statistics secured by that bureau are in these respects not comparable with the census returns.

A comparison of the returns for 1908 with those for 1903–4 shows large decreases in every branch of the industry, including one of 17 per cent in the total amount invested in vessels, boats, and apparatus of capture, and one of 28 per cent in the value of the products. The figures were in fact higher for 1903–4 than for any other canvass, except that the number of vessels was smaller than in 1888–1890 and the quantity of products smaller than in 1880.

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	EQUIPMENT.						PRODUCTS.	
		Total value.	Vessels.		Boats.		Apparatus of capture (value).	Quantity (pounds).	Value.
			Number.	Value, including outfit.	Number.	Value.			
Total:									
1908	6,172	$2,419,000	643	$1,750,000	3,131	$308,000	$362,000	76,485,000	$4,594,000
1903–4	9,732	2,931,000	711	2,181,000	5,195	346,000	404,000	281,844,000	6,418,000
1897–1899	8,187	1,635,000	655	1,054,000	4,510	293,000	289,000	117,516,000	3,634,000
1888–1890	7,242	1,867,000	745	1,318,000	4,126	247,000	301,000	197,754,000	3,604,000
1880	5,650	1,458,000	541	775,000	3,441	290,000	393,000	333,523,000	4,381,000
Atlantic coast district:									
1908	5,146	2,274,000	629	1,698,000	2,858	278,000	298,000	71,474,000	4,390,000
1904	8,496	2,717,000	686	2,090,000	4,894	321,000	306,000	277,650,000	6,231,000
1897	6,937	1,499,000	643	1,012,000	4,089	274,000	213,000	109,556,000	3,392,000
1888	5,864	1,711,000	738	1,394,000	3,590	211,000	206,000	189,666,000	3,348,000
Great Lakes district:									
1908	1,026	145,000	14	51,000	273	29,000	64,000	5,011,000	203,000
1903	1,236	214,000	25	91,000	301	25,000	98,000	4,194,000	188,000
1899	1,250	136,000	12	42,000	421	18,000	75,000	7,961,000	242,000
1890	1,378	156,000	7	24,000	536	37,000	95,000	8,088,000	257,000

In the Atlantic Coast district there has been the same tendency toward an increase in the various items up to 1904 and toward a sudden decrease after that date. In the Great Lakes district the number of fishermen has steadily decreased, but up to 1903 the number and value of vessels increased. The number of boats in this district has decreased, but since 1899 their total value has advanced, as a result of the increasing use of motor boats. The amount invested in apparatus of capture in the fisheries of the Great Lakes was less in 1908 than at any previous canvass, but in the value of the products there was an increase from 1903 to 1908 of $16,000, or 8 per cent.

Persons employed.—The following table gives the number of persons employed in the fishing industry of New York in 1908:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	6,775	[1] 3,270	53	3,452	$1,177,000	$45,000	[2] $1,133,000
Vessel fisheries	2,239	501	48	1,690	700,000	40,000	660,000
Transporting vessels	314	76	.....	238	104,000	.....	104,000
Shore and boat fisheries	3,619	2,693	5	921	231,000	4,800	227,000
Shoresmen	603	.....	.....	603	142,000	.....	142,000
Atlantic coast district	5,749	2,380	53	3,316	1,127,000	45,000	1,082,000
Vessel fisheries	2,157	491	48	1,618	665,000	40,000	626,000
Transporting vessels	314	76	.....	238	104,000	.....	104,000
Shore and boat fisheries	2,675	1,813	5	857	216,000	4,800	211,000
Shoresmen	603	.....	.....	603	142,000	.....	142,000
Long Island Sound	1,429	588	19	822	269,000	17,000	252,000
Vessel fisheries	453	126	19	308	158,000	17,000	141,000
Transporting vessels	61	22	.....	39	15,000	.....	15,000
Shore and boat fisheries	617	440	.....	177	67,000	.....	67,000
Shoresmen	298	.....	.....	298	28,000	.....	28,000
All other waters	4,320	1,792	34	2,494	858,000	27,000	830,000
Vessel fisheries	1,704	365	29	1,310	508,000	23,000	485,000
Transporting vessels	253	54	.....	199	89,000	.....	89,000
Shore and boat fisheries	2,058	1,373	5	680	148,000	4,800	143,000
Shoresmen	305	.....	.....	305	113,000	.....	113,000
Great Lakes district	1,026	890	.....	136	51,000	.....	51,000
Vessel fisheries	82	10	.....	72	35,000	.....	35,000
Shore and boat fisheries	944	880	.....	64	16,000	.....	16,000
Lake Erie	730	615	.....	115	48,000	.....	48,000
Vessel fisheries	82	10	.....	72	35,000	.....	35,000
Shore and boat fisheries	648	605	.....	43	13,000	.....	13,000
Lake Ontario (shore and boat fisheries)	296	275	.....	21	2,900	.....	2,900

[1] Exclusive of 112 proprietors not fishing.

[2] Includes provisions furnished to the value of $157,000.

Of the total number of persons engaged in the fisheries of the state, including shoresmen, 5,749, or 85 per cent, were reported for the Atlantic coast district. The shore and boat fisheries are credited with 53 per cent of the total number of persons employed. The number of proprietors and independent fishermen was much higher, relatively, for the Great Lakes district than for the Atlantic coast district, being 87 per cent of all persons employed in the case of the former district and only 41 per cent in the case of the latter.

Equipment and other capital.—The total investment in the fisheries of the state was $3,832,000. The amounts represented by the principal items are shown in detail in the following table:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
Total	$3,832,000	$3,666,000	$979,000	$2,687,000	$166,000	$131,000	$35,000
Vessels, including outfit	1,750,000	1,698,000	392,000	1,307,000	51,000	51,000	.....
Fishing	1,406,000	1,354,000	335,000	1,019,000	51,000	51,000	.....
Steam and motor	783,000	732,000	305,000	427,000	51,000	51,000	.....
Vessels	664,000	622,000	259,000	364,000	42,000	42,000	.....
Outfit	119,000	110,000	47,000	63,000	9,100	9,100	.....
Sail	614,000	614,000	30,000	584,000	.....	.....	.....
Vessels	426,000	426,000	28,000	398,000	.....	.....	.....
Outfit	188,000	188,000	1,800	187,000	.....	.....	.....
Other	8,000	8,000	.....	8,000	.....	.....	.....
Transporting	344,000	344,000	56,000	288,000	.....	.....	.....
Steam and motor	209,000	209,000	39,000	171,000	.....	.....	.....
Vessels	173,000	173,000	32,000	141,000	.....	.....	.....
Outfit	37,000	37,000	6,600	30,000	.....	.....	.....
Sail	135,000	135,000	17,000	117,000	.....	.....	.....
Vessels	117,000	117,000	15,000	102,000	.....	.....	.....
Outfit	18,000	18,000	2,700	15,000	.....	.....	.....
Other	300	300	300	.....	.....	.....	.....
Boats	308,000	278,000	67,000	211,000	29,000	18,000	11,000
Steam and motor	187,000	162,000	41,000	120,000	25,000	17,000	8,800
Sail	42,000	40,000	12,000	28,000	1,200	300	800
Row	61,000	58,000	11,000	47,000	2,900	1,200	1,700
Other	18,000	18,000	2,200	16,000	100	.....	100
Apparatus of capture	362,000	298,000	80,000	217,000	64,000	49,000	16,000
Vessel fisheries	114,000	87,000	8,700	78,000	27,000	27,000	.....
Shore and boat fisheries	248,000	211,000	71,000	139,000	37,000	22,000	16,000
Shore and accessory property	665,000	647,000	183,000	464,000	19,000	11,000	7,900
Cash	747,000	745,000	258,000	487,000	2,200	2,200	.....

The number and tonnage of the vessels and the number of the boats were as follows:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
Vessels:							
Fishing—							
Number	509	495	143	352	14	14	.....
Tonnage	7,613	7,397	1,960	5,437	216	216	.....
Steam and motor—							
Number	236	222	71	151	14	14	.....
Tonnage	3,262	3,046	1,444	1,602	216	216	.....
Sail—							
Number	220	220	72	148	.....	.....	.....
Tonnage	4,351	4,351	516	3,835	.....	.....	.....
Other, number	53	53	.....	53	.....	.....	.....
Transporting—							
Number	134	134	30	104	.....	.....	.....
Tonnage	2,862	2,862	556	2,306	.....	.....	.....
Steam and motor—							
Number	62	62	17	45	.....	.....	.....
Tonnage	992	992	202	790	.....	.....	.....
Sail—							
Number	71	71	12	59	.....	.....	.....
Tonnage	1,790	1,790	274	1,516	.....	.....	.....
Other—							
Number	1	1	1	.....	.....	.....	.....
Tonnage	80	80	80	.....	.....	.....	.....
Boats, number	3,131	2,858	764	2,094	273	111	162
Steam and motor	458	394	98	296	64	34	30
Sail	306	285	73	212	21	5	16
Row	2,215	2,030	531	1,499	185	72	113
Other	152	149	62	87	3	.....	3

The largest investment was in vessels, 46 per cent of the total capital being invested in fishing and transporting vessels and their outfits. From 1903-4 to 1908 there was an increase of 3 in the number of fishing vessels, accompanied by a decrease of 2,703 in the net tonnage, while both the number and the tonnage of transporting vessels decreased, the falling off in number amounting to 70 and that in net tonnage to 858. The total investment in apparatus of capture was $362,000, over two-thirds of which pertained to the shore and boat fisheries. In the Great Lakes district the largest investment was in apparatus of capture, the value of which represented 39 per cent of the total investment for this district.

The investment in shore and accessory property and the cash capital reported, which together represented over a third of the total investment, were confined almost wholly to the Atlantic coast fisheries.

The following table gives detailed statistics concerning the number of the principal kinds of apparatus of capture used:

KIND OF APPARATUS AND CLASS OF FISHERIES.	APPARATUS OF CAPTURE: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
All fisheries:							
Beam trawls	29	29	3	26			
Eel and lobster pots	17,456	17,456	3,288	14,168			
Fyke and hoop nets	9,576	9,098	2,058	7,040	478		478
Gill nets	12,283	1,108	67	1,041	11,175	10,084	1,091
Harpoons, spears, etc	160	160	63	97			
Seines	385	380	18	362	5		5
All other	903	823	325	498	80	25	55
Vessel fisheries:							
Beam trawls	27	27	3	24			
Eel and lobster pots	4,461	4,461	595	3,866			
Fyke and hoop nets	2,877	2,877	15	2,862			
Gill nets	5,279	280	25	255	4,999	4,999	
Harpoons, spears, etc	47	47	19	28			
Seines	77	77	1	76			
Shore and boat fisheries:							
Beam trawls	2	2		2			
Dip nets	326	325	7	318	1		1
Eel and lobster pots	12,995	12,995	2,693	10,302			
Fyke and hoop nets	6,699	6,221	2,043	4,178	478		478
Gill nets	7,004	828	42	786	6,176	5,085	1,091
Harpoons, spears, etc	113	113	44	69			
Muskrat traps	70	70	60	10			
Pound and trap nets	507	428	258	170	79	25	54
Seines	308	303	17	286	5		5

Products, by species.—The products of the New York fisheries in 1908 amounted to 76,485,000 pounds, valued at $4,594,000, and are shown in detail in Table 1, on page 204. Mollusks contributed nearly two-thirds of the total value of all products, the value of oysters alone constituting 56 per cent of the total. The value of the catch of squeteague, which was the most important species of fish proper reported and which ranked second to oysters among all fishery products, represented 10 per cent of the total.

Products, by fishing grounds.—Table 6, on page 207, shows the total fishery products of the state, distributed by species and by districts. Detailed statistics of the products of the Atlantic coast, Long Island Sound, Lake Erie, and Lake Ontario districts, by kind and by apparatus of capture, are shown, respectively, in Tables 2, 3, 4, and 5, on pages 205 to 207.

As all of the mollusks, the most valuable class of fishery products, and all of the salt-water fish were taken on the Atlantic coast, this district is credited with a large proportion of the total value of products. Fish contributed 31 per cent of the total value of products of the Atlantic coast district. The value of squeteague, which is by far the most important species of fish caught, combined with that of bluefish, flounders, and cod, made up nearly three-fourths of the entire value of the fish caught in this district. All the pike perch, lake herring, and whitefish were taken in the Great Lakes district, Lake Erie furnishing much the larger part of the value of each of these. Some species were taken in the Hudson River and also in the Great Lakes; eels and German carp were taken principally in the Hudson River, and sturgeon and catfish principally in the Great Lakes. The most important species taken in Lake Erie were pike perch and lake herring. For Lake Ontario the principal species were catfish and bullheads, pike perch, and sturgeon.

Products, by class of fisheries.—Table 7, on page 208, gives statistics of the fishery products of New York, distributed by species and by class of fisheries. Tables 8 and 10, on pages 209 and 210, show the distribution by districts of the products of the vessel fisheries and the shore and boat fisheries, respectively, ranked according to value.

The following tabular statement shows the distribution, according to species arranged in the order of their value, of the total value of products for each class of fisheries:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$4,594,000	$2,860,000	$1,734,000
Fish	1,566,000	742,000	824,000
Squeteague	451,000	216,000	235,000
Bluefish	291,000	268,000	22,000
Flounders	141,000	30,000	111,000
Cod	99,000	59,000	39,000
Pike perch	68,000	38,000	30,000
Butterfish	64,000	400	64,000
Eels	57,000	11,000	46,000
Lake herring	51,000	25,000	26,000
Scup, or porgy	45,000	42,000	2,600
Sea bass	35,000	16,000	19,000
Carp, German	31,000	200	31,000
Shad	27,000		27,000
Sturgeon and caviar	23,000	(1)	23,000
Menhaden	22,000	18,000	4,000
Catfish and bullheads	20,000	200	20,000
All other	140,000	16,000	124,000
Oysters	2,553,000	1,952,000	601,000
Clams	292,000	82,000	210,000
Scallops	98,000	64,000	35,000
Lobster	57,000	18,000	40,000
All other	27,000	2,800	24,000

[1] Less than $100.

Vessel fisheries are credited with 55 per cent of the weight and 62 per cent of the value of the New York fishery products. Oysters, the most important product for the state as a whole, contributed 68 per cent of the value of the product reported for vessel fisheries of the state as a whole, 70 per cent of the corresponding value for the Atlantic coast district, and 85 per cent of that for the Long Island Sound fisheries. Ninety-seven per cent of the value of the entire catch reported for vessels represents the value of product secured on the Atlantic coast. The vessels reported for Lake Erie, 14 in number, contributed products valued at $73,000. There were no vessels engaged in fishing on Lake Ontario.

In the shore and boat fisheries, as in the vessel fisheries, oysters were the product of greatest value, representing 35 per cent of the total value of products. Nearly all the scallops were taken in Long Island Sound; practically all the lake herring came from the shore and boat fisheries in Lake Erie; and the pike and pickerel almost exclusively from Lake Ontario. The shore and boat fisheries in the Atlantic coast district supplied 93 per cent of the entire catch reported for this class of fisheries.

Some species, such as bluefish and scup, were taken almost wholly by the vessel fisheries and others, notably butterfish, carp, sturgeon, and catfish, almost entirely by the shore and boat fisheries. All of the shad product was from the latter class of fisheries.

Products, by apparatus of capture.—The distribution of the total value of products, arranged in order of the value of their catch, for the state as a whole and for each class of fisheries, is shown in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$4,594,000	$2,860,000	$1,734,000
Dredges, tongs, etc	2,954,000	2,100,000	854,000
Lines	442,000	313,000	130,000
Pound and trap nets	417,000		417,000
Seines	327,000	273,000	54,000
Gill nets	246,000	118,000	128,000
Eel and lobster pots	95,000	26,000	69,000
Fyke and hoop nets	86,000	19,000	67,000
Dip nets	9,300		9,300
All other	18,000	12,000	6,800

The largest catch was reported for dredges, tongs, etc., which took products valued at $2,954,000, or 64 per cent of the total. Nearly three-fourths of the entire vessel catch and almost half of the entire shore and boat catch were taken by these forms of apparatus.

The following tabular statement distributes the value of the catch with dredges, tongs, etc., by species and by class of fisheries:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH DREDGES, TONGS, ETC.: 1908.		
	Total.	Long Island Sound.	All other waters.
Total	$2,954,000	$846,000	$2,108,000
Vessel fisheries	2,100,000	576,000	1,523,000
Oysters	1,952,000	499,000	1,453,000
Clams	82,000	15,000	67,000
Scallops	64,000	63,000	1,000
Mussels	1,600		1,600
Eels	400		400
Crabs	300		300
Shore and boat fisheries	854,000	270,000	585,000
Oysters	601,000	145,000	457,000
Clams	210,000	91,000	119,000
Scallops	34,000	34,000	200
Mussels	6,600		6,600
Crabs	1,000		1,000
Eels	1,000		1,000

Lines were next in importance with respect to the value of products taken, more than half the entire value of the line catch representing the value of bluefish, while cod stood next, contributing 22 per cent of the total value.

The value reported for the various products taken with lines is given in the following tabular statement:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH LINES: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
Total	$442,000	$397,000	$5,700	$391,000	$45,000	$5,700	$39,000
Vessel fisheries	313,000	313,000	2,600	310,000			
Bluefish	243,000	243,000	100	243,000			
Cod	59,000	59,000	1,300	58,000			
Sea bass	8,000	8,000	1,100	6,900			
All other products	2,600	2,600	200	2,400			
Shore and boat fisheries	130,000	84,000	3,100	81,000	45,000	5,700	39,000
Cod	36,000	36,000	200	36,000			
Sea bass	16,000	16,000	1,300	15,000			
Haddock	11,000	11,000		11,000			
Sturgeon and caviar	10,000				10,000	2,400	7,700
Pike perch	8,800				8,800	2,400	6,500
Pike and pickerel	7,700	(1)		(1)	7,700		7,700
Brook trout	6,300				6,300		6,300
Catfish and bullheads	6,000	100		100	5,900	700	5,200
Black bass	5,100				5,100	100	5,000
All other fish	18,000	17,000	1,600	15,000	1,300	(1)	1,200
Crabs	4,400	4,400		4,400			

[1] Less than $100.

The entire catch with pound and trap nets was reported by the shore and boat fisheries, and its value formed 9 per cent of the total value of products. Squeteague, the chief species thus taken, had a value exceeding that of all other species; flounders and butterfish were also taken in large quantities. The following tabular statement distributes the value of the product taken with pound and trap nets, by species and by districts:

SPECIES.	VALUE OF PRODUCT TAKEN WITH POUND AND TRAP NETS: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
Total	$417,000	$410,000	$205,000	$204,000	$7,100	$2,800	$4,300
Squeteague	218,000	218,000	77,000	141,000			
Flounders	65,000	65,000	41,000	23,000			
Butterfish	64,000	64,000	49,000	15,000			
Bluefish	10,000	10,000	5,300	4,700			
Squid	8,000	8,000	6,100	1,900			
Mackerel	6,300	6,300	4,200	2,100			
Kingfish	4,600	4,600	3,100	1,500			
Whiting	3,700	3,700	2,100	1,600			
Menhaden	3,400	3,400	2,300	1,100			
Sea bass	3,000	3,000	1,800	1,200			
All other products	31,000	24,000	13,000	11,000	7,100	2,800	4,300

The gill-net catch amounted to 7,412,000 pounds, with a value of $246,000. Of the 12,283 gill nets reported, 10,084 were used by the Lake Erie fishermen. The most important species taken by these nets were pike perch, for which a value of $57,000 was reported; lake herring, for which a value of $50,000 was reported; and squeteague, for which a value of $33,000 was reported. The value of the gill-net catch, by chief species, by class of fisheries, and by districts, is given in the following tabular statement:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH GILL NETS: 1908.						
	Aggregate.	Atlantic coast district.			Great Lakes district.		
		Total.	Long Island Sound.	All other waters.	Total.	Lake Erie.	Lake Ontario.
Total	$246,000	$110,000	$3,500	$107,000	$136,000	$121,000	$14,000
Vessel fisheries	118,000	45,000	900	44,000	73,000	73,000	
Pike perch	38,000				38,000	38,000	
Lake herring	25,000				25,000	25,000	
Squeteague	19,000	19,000	200	19,000			
Bluefish	19,000	19,000	400	19,000			
Whitefish	7,700				7,700	7,700	
Mackerel	2,000	2,000	300	1,700			
All other products	6,200	4,000		4,000	2,200	2,200	
Shore and boat fisheries	128,000	66,000	2,600	63,000	62,000	48,000	14,000
Lake herring	26,000				26,000	24,000	1,500
Shad	24,500	24,000		24,000			
Pike perch	19,000				19,000	15,000	4,300
Squeteague	14,000	14,000	800	13,000			
Sturgeon	11,000	3,700		3,700	7,500	5,700	1,800
Bluefish	9,100	9,100	1,000	8,200			
Whitefish	7,100				7,100	2,100	5,000
Perch	5,200	3,900		3,900	1,200	1,000	300
All other products	13,000	11,000	900	10,000	1,700	600	1,100

The 385 seines used in 1908 took 18,178,000 pounds of fish, valued at $327,000. Of the total value, 61 per cent was contributed by squeteague, or weakfish, practically all of which product was taken outside of Long Island Sound by the vessel fishermen. From 1904 to 1908 there was a decrease of 200,511,000 pounds, valued at $664,000, in the seine catch of menhaden, but an increase of 64,000 pounds, valued at $10,000, in that of German carp. The value of the seine catch, distributed by chief species, by class of fisheries, and by districts, was as follows:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH SEINES: 1908.				
	Aggregate.	Atlantic coast district.			Lake Ontario.
		Total.	Long Island Sound.	All other waters.	
Total	$327,000	$324,000	$2,800	$321,000	$2,700
Vessel fisheries	273,000	273,000	(1)	273,000	
Squeteague	197,000	197,000	(1)	197,000	
Scup, or porgy	42,000	42,000		42,000	
Menhaden	17,000	17,000		17,000	
Sea bass	7,300	7,300		7,300	
Bluefish	6,000	6,000		6,000	
Flounders	1,600	1,600		1,600	
All other products	1,800	1,800		1,800	
Shore and boat fisheries	54,000	51,000	2,800	48,000	2,700
Carp, German	23,000	23,000		23,000	
Whitebait	4,600	4,600		4,600	
Suckers	4,400	1,700		1,700	2,700
Striped bass	3,400	3,400	700	2,600	
Perch	3,300	3,300		3,300	
Eels	2,700	2,700		2,700	
Flounders	2,600	2,600	200	2,400	
Alewives	2,400	2,400	(1)	2,400	
Squeteague	2,200	2,200	1,400	800	
Shad	1,800	1,800		1,800	
Catfish and bullheads	1,300	1,300		1,300	
All other products	1,800	1,800	400	1,300	

[1] Less than $100.

The catch made with pots was confined to the Atlantic coast district. The value of the product taken in this way was $95,000, of which $57,000 represented the value of lobsters, $37,000 the value of eels, and the remainder that of a few fish and crabs. Detailed statistics as to the value of the catch made with pots, by species, are given in the following tabular statement:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH POTS: 1908.		
	Total.	Long Island Sound.	All other waters.
Total	$95,000	$17,000	$78,000
Vessel fisheries	26,000	2,200	24,000
Lobster	18,000	1,900	16,000
Eels	8,300	300	8,000
Flounders	200		200
Crabs, hard	100		100
Shore and boat fisheries	69,000	15,000	54,000
Lobster	39,000	9,600	29,000
Eels	29,000	5,200	24,000
Whitebait	900		900
Crabs, hard	300	(1)	200
Flounders	100		100

[1] Less than $100.

Flounders were the most important species taken with fyke and hoop nets, the value of the catch amounting to $56,000 and constituting 66 per cent of the entire value of the catch taken with this form of apparatus. Detailed statistics as to the value of the fyke and hoop net catch, by species, are as follows:

CLASS OF FISHERIES AND SPECIES.	VALUE OF PRODUCT TAKEN WITH FYKE AND HOOP NETS: 1908.				
	Aggregate.	Atlantic coast district.			Lake Ontario.
		Total.	Long Island Sound.	All other waters.	
Total	$86,000	$73,000	$24,000	$49,000	$13,000
Vessel fisheries	19,000	19,000	100	19,000	
Flounders	19,000	19,000		19,000	
All other products	100	100	100	(1)	
Shore and boat fisheries	67,000	54,000	24,000	30,000	13,000
Flounders	37,000	37,000	23,000	14,000	
Catfish and bullheads	9,700	3,300		3,300	6,300
Suckers	5,600	3,500		3,500	2,200
Eels	4,100	2,200		2,200	2,000
Perch	2,900	2,300	(1)	2,300	600
Carp, German	1,400	1,400		1,400	100
Tomcod	1,400	1,400	300	1,000	
All other products	4,300	2,100	600	1,500	2,200

[1] Less than $100.

The entire catch with dip nets was reported by the shore and boat fisheries. Statistics as to the value of the catch, by species, are given in the following tabular statement:

SPECIES.	VALUE OF PRODUCT TAKEN WITH DIP NETS: 1908.				
	Aggregate.	Atlantic coast district.			Lake Ontario.
		Total.	Long Island Sound.	All other waters.	
Total	$9,300	$9,300	$300	$9,000	$100
Carp, German	4,400	4,400	.....	4,400	.....
Crabs, soft	1,400	1,400	.....	1,400	.....
Crabs, hard	1,100	1,100	(1)	1,000	.....
Suckers	900	900	.....	900	100
All other	1,500	1,500	200	1,300	.....

[1] Less than $100.

Principal species.—Table 9, on page 209, gives the quantity and value of the principal fishery products for 1908 in comparison with the figures for former years for which returns are available. The five leading species, ranked according to value in the respective years, were as follows:

1908	1898–99	1890	1880
Oysters.	Oysters.	Oysters.	Oysters.
Squeteague.	Menhaden.	Clams.	Menhaden.
Clams.	Bluefish.	Menhaden.	Clams.
Bluefish.	Clams.	Bluefish.	Shad.
Flounders.	Sturgeon.	Shad.	Squeteague.

Oysters and clams appear among the five leading species for each of the four years; menhaden and bluefish for three of the years; squeteague and shad for two years; and flounders and sturgeon for one year each.

Oysters.—In 1904 New York ranked first among the states in the value of its oyster product, but in 1908 it held second place, Connecticut ranking first. Although the yield was less than two-thirds the quantity reported for Connecticut, and less than half of that for either Maryland or Virginia, the average price per bushel received by the fishermen was considerably higher. Statistics of oysters taken from New York beds by Connecticut fishermen are given on page 93. The tabular statement at the foot of this page shows for 1908 the distribution of the quantity and the value of market and seed oysters taken from public and private areas of the state according to the waters from which such products were taken. Of the total yield, 95 per cent, with a value equal to 98 per cent of the total value, was taken from private areas.

Statistics of the oyster catch of New York are available for nine different years between 1880 and 1908. The following tabular statement gives the amount and value of the yield and the average price per bushel for such years:

YEAR.	OYSTER PRODUCT.		
	Quantity (bushels).	VALUE.	
		Amount.	Average per bushel.
1908	2,463,000	$2,553,000	$1.04
1904	3,329,000	3,780,000	1.14
1901	2,313,000	1,973,000	0.85
1898	2,062,000	1,985,000	0.96
1897	2,127,000	2,050,000	0.96
1891	2,611,000	2,749,000	1.05
1890	2,351,000	2,458,000	1.05
1889	2,090,000	2,133,000	1.02
1880	1,043,000	1,577,000	1.51

The average catch for the nine years was 2,265,000 bushels, the average value $2,362,000, and the average value per bushel $1.04. As compared with these averages the report for 1908 shows increases of 198,000 bushels in quantity and $191,000 in value, but no change in the average value per bushel. Detailed statistics for the oyster product for 1908 are given in the following tabular statement:

KIND AND SOURCE.	OYSTER PRODUCT: 1908.											
	Total.				Long Island Sound.				All other waters.			
	Quantity.		Value.		Quantity.		Value.		Quantity.		Value.	
	Bushels.	Per cent distribution.	Amount.	Per cent distribution.	Bushels.	Per cent distribution.	Amount.	Per cent distribution.	Bushels.	Per cent distribution.	Amount.	Per cent distribution.
Total	2,463,000	100	$2,553,000	100	770,000	100	$643,000	100	1,693,000	100	$1,910,000	100
From private areas	2,352,000	95	2,490,000	98	745,000	97	631,000	98	1,607,000	95	1,859,000	97
From public areas	111,000	5	63,000	2	25,000	3	12,000	2	87,000	5	51,000	3
Market oysters	1,849,000	75	2,173,000	85	342,000	44	375,000	58	1,508,000	89	1,798,000	94
From private areas	1,828,000	74	2,155,000	84	341,000	44	374,000	58	1,487,000	88	1,780,000	93
From public areas	22,000	1	18,000	1	500	(1)	500	(1)	21,000	1	17,000	1
Seed oysters	614,000	25	381,000	15	429,000	56	268,000	42	186,000	11	112,000	6
From private areas	524,000	21	336,000	13	404,000	52	257,000	40	120,000	7	79,000	4
From public areas	89,000	4	45,000	2	24,000	3	11,000	2	66,000	4	34,000	2

[1] Less than 1 per cent.

Clams.—In the yield of hard clams there was a decrease from 1904 to 1908 of nearly 27 per cent. Soft clams, which are used principally in the cod fisheries for bait, decreased 11 per cent in quantity between 1904 and 1908.

Scallops.—The yield of scallops in 1908 amounted to 81,000 gallons, valued at $98,000, which represents a decrease of 31,000 gallons in quantity and $48,000 in value, compared with the yield of 1904. The state of New York was second in rank with respect to the value of the scallop product in 1908, the yields in Massachusetts, New York, and Maine contributing, respectively, 38, 31, and 30 per cent of the value of the product of the entire country. The industry in New York is carried on principally at the eastern end of Long Island.

Bluefish.—The bluefish product was taken chiefly with lines in the vessel fisheries. Compared with 1904 there was a decrease in quantity from 11,414,000 to 3,191,000 pounds, and a decrease in value from $557,000 to $291,000.

Butterfish.—There was an increase of 112 per cent in quantity, and an increase of 129 per cent in value in the yield of butterfish for the period from 1904 to 1908.

German carp.—This fish, for which there is an increasing demand, was taken chiefly with seines in the Hudson River. The apparatus to be used in taking German carp in this river and the season in which the fish may be taken are under the control of the State Forest, Fish, and Game Commission. Larger quantities of German carp were caught in 1908 than ever before, the yield of 406,000 pounds, valued at $31,000, representing an increase over that in 1903–4 of 115,000 pounds in quantity and $14,000 in value.

Cod.—The catch of cod in 1908 was 2,999,000 pounds, valued at $99,000, an increase over that for 1904 of 156 per cent in quantity and of 87 per cent in value.

Flounders.—The flounder catch shows an increase in 1908 compared with 1904 of 154 per cent in weight and 110 per cent in value. A product of 4,629,000 pounds, valued at $141,000, was taken in 1908, principally in nets.

Menhaden.—The principal uses of the menhaden are for oil and fertilizer, but a few are sold for food. This fish is taken chiefly with seines in the Atlantic Ocean fisheries. Although it continues to lead all others in quantity, there was a large decrease in the catch, that in 1908 being 12,762,000 pounds, or only about one-seventeenth of that for 1904. The value of this small catch in 1908 was $22,000, or less than one-thirtieth of the value for 1904, $694,000.

Pike perches.—Under this term are included blue pike, saugers, and wall-eyed pike. The greater part of the product was taken in Lake Erie with gill nets, and the yield of 2,001,000 pounds, valued at $68,000, in 1908, shows an increase over that for 1903 of 905,000 pounds in quantity and of $22,000 in value. The value of blue pike constituted 95 per cent of the total value of pike perch caught in 1908.

Squeteague.—The squeteague taken in 1908 had more than double the value of that caught in 1904. In 1908 the value of this species formed more than one-fourth of the value of all fish proper reported for the state. It was surpassed in quantity only by menhaden. The catch was about evenly divided between the shore and boat fisheries, where this fish is taken chiefly in pound and trap nets, and the vessel fisheries, where seines are the principal apparatus used.

TABLE 1.—NEW YORK—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound and trap nets.		Seines.		Gill nets.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	76,485,000	$4,594,000	7,752,000	$442,000	11,006,000	$417,000	18,178,000	$327,000	7,412,000	$246,000	2,951,000	$86,000	29,186,000	$3,077,000
Fish:														
Albacore, or horse mackerel	10,000	400			10,000	400	500	(2)						
Alewives	654,000	7,100			187,000	2,800	318,000	2,400	108,000	1,600	37,000	200	4,300	100
Black bass	38,000	5,100	37,000	5,100	400	(2)			(2)	(2)	(2)	(2)		
Bluefish	3,191,000	291,000	2,673,000	246,000	134,000	10,000	91,000	6,900	293,000	28,000				
Bonito	102,000	5,400	74,000	3,800	21,000	1,300	6,800	300						
Butterfish	1,229,000	64,000			1,218,000	64,000	5,400	300	4,800	300				
Carp, German	406,000	31,000			4,700	100	271,000	23,000	35,000	1,700	24,000	1,400	72,000	4,400
Catfish and bullheads	247,000	20,000	59,000	6,000	10,000	1,100	20,000	1,300	25,000	1,800	129,000	9,700	3,200	200
Cod	2,999,000	99,000	2,925,000	96,000	51,000	1,900	2,000	100	19,000	900			2,500	100
Croaker	7,500	200					7,500	200						
Dogfish	42,000	600			42,000	600					100	(2)		
Eels	736,000	57,000	9,800	600	30,000	2,400	48,000	2,800	2,000	100	59,000	4,100	588,000	47,000
Flounders	4,629,000	141,000	113,000	4,100	1,687,000	65,000	121,000	4,200	50,000	1,900	2,383,000	56,000	276,000	9,700
Haddock	424,000	12,000	424,000	12,000										
Hake	39,000	1,000	39,000	1,000	(2)	(2)								
Herring, lake	2,044,000	51,000	(2)	(2)	12,000	300			2,030,000	50,000	1,800	100		
Kingfish	34,000	4,900	100	(2)	33,000	4,600	800	200	600	100				
Ling	24,000	400	21,000	300	2,600	(2)	400	(2)						
Mackerel	106,000	6,600	16,000	900	60,000	3,500	100	(2)	30,000	2,300				
Mackerel, chub	38,000	2,900			57,000	2,800	1,000	100						
Menhaden	12,762,000	22,000			2,012,000	3,400	9,600,000	17,000	1,150,000	1,600				
Muskallunge	19,000	1,200	19,000	1,200					100	(2)				
Perch, white	90,000	8,700			3,500	400	31,000	3,200	41,000	3,900	14,000	1,300		
Perch, yellow	144,000	5,400	1,100	(2)	9,300	400	3,200	200	89,000	3,100	39,000	1,600	2,000	100
Pike and pickerel	90,000	9,600	65,000	7,700	10,000	700	100	(2)	3,100	200	11,000	900	100	(2)
Pika perch (blue pike)	1,904,000	59,000	23,000	2,300	30,000	1,300			1,851,000	55,000	300	(2)		
Pike perch (sauger)	40,000	2,000							40,000	2,000				
Pike perch (wall-eyed pike)	56,000	7,000	52,000	6,500	2,000	200			300	(2)	1,800	200		
Pollack	133,000	3,500	67,000	1,900	50,000	1,200			16,000	400				
Scup, or porgy	1,294,000	45,000	6,200	300	52,000	2,400	1,235,000	42,000	200	(2)				
Sea bass	723,000	35,000	466,000	24,000	39,000	3,000	203,000	7,300	14,000	1,000	(2)	(2)		
Sea robin	53,000	500			51,000	500	1,000	(2)	1,300	(2)				
Shad	360,000	27,000			6,800	900	27,000	1,800	323,000	24,000	3,700	400	500	(2)
Skates	168,000	2,100	91,000	500	76,000	1,600			800	(2)				
Smelt	4,000	900							2,600	600	1,400	300		
Spanish mackerel	500	100			400	100	(2)	(2)	200	(2)				
Spot	109,600	2,600			69,000	1,100	200	(2)	39,000	1,500				
Squeteague, or weakfish	11,151,000	451,000	28,000	1,100	4,319,000	218,000	5,850,000	199,000	955,000	33,000	100	(2)		
Striped bass	45,000	7,600	2,100	300	15,000	2,600	20,000	3,500	6,700	1,000	1,400	200		
Sturgeon	105,000	16,000	39,000	6,000	11,000	1,400	500	(2)	54,000	8,000	100	(2)		
Caviar	8,100	7,500	4,900	4,000	300	300			2,900	3,200				
Suckers	276,000	13,000			24,000	800	84,000	4,400	31,000	800	118,000	5,600	18,000	900
Sunfish	31,000	900			12,000	200	400	(2)	400	(2)	18,000	600	200	(2)
Swordfish	3,600	200											3,600	200
Tautog	81,000	3,100	8,800	400	53,000	1,900	4,200	200	1,000	(2)	14,000	500		
Tomcod	97,000	2,300			16,000	600	8,000	300			73,000	1,400		
Trout, brook	18,000	6,300	18,000	6,300										
Trout, lake	20,000	1,400							12,000	800	8,200	700		
Whitebait	199,000	5,700					179,000	4,800			2,600	(2)	18,000	900
Whitefish	179,000	15,000			4,200	400			175,000	15,000				
Whiting	268,000	3,700			268,000	3,700	300	(2)						
All other	50,000	300	2,000	(2)	43,000	200	2,000	100	100	(2)	3,100	100	200	(2)
Crabs, hard	580,000	7,400	467,000	4,700	12,000	300	38,000	500	100	(2)	6,600	200	56,000	1,800
Crabs, soft	22,000	2,300											22,000	2,300
Crabs, king	56,000	100			56,000	100								
Crabs, spider	7,200	(2)			7,200	(2)								
Lobster	423,000	57,000			6,700	900			500	100			416,000	57,000
Shrimp	1,500	600											1,500	600
Clams, hard	[4] 809,000	223,000											[4] 809,000	223,000
Clams, soft	[5] 656,000	54,000											[5] 656,000	54,000
Clams, surf	[6] 167,000	14,000											[6] 167,000	14,000
Mussels	[7] 8,175,000	8,200											[7] 8,175,000	8,200
Oysters, market, from public areas	[8] 151,000	18,000											[8] 151,000	18,000
Oysters, market, from private areas	[9] 12,795,000	2,155,000											[9] 12,795,000	2,155,000
Oysters, seed, from public areas	[10] 628,000	45,000											[10] 628,000	45,000
Oysters, seed, from private areas	[11] 3,670,000	336,000											[11] 3,670,000	336,000
Scallops	[12] 650,000	98,000											[12] 650,000	98,000
Squid	189,000	8,100			187,000	8,000			2,000	100				
Turtles	200	(2)			200	(2)								
Skins, muskrat	[13] 100	(2)											[13] 100	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 27,749,000 pounds, valued at $2,954,000; eel and lobster pots, 915,000 pounds, valued at $95,000; beam trawls, 268,000 pounds, valued at $9,400; dip nets, 144,000 pounds, valued at $9,300; harpoons, spears, etc., 108,000 pounds, valued at $8,800; and minor apparatus, 400 pounds, valued at $100.

[2] Less than $100.
[3] Less than 100 pounds.
[4] 101,000 bushels.
[5] 66,000 bushels.
[6] 21,000 bushels.
[7] 818,000 bushels.
[8] 22,000 bushels.
[9] 1,828,000 bushels.
[10] 90,000 bushels.
[11] 524,000 bushels.
[12] 81,000 gallons.
[13] 200 skins.

TABLE 2.—NEW YORK—FISHERY PRODUCTS OF ATLANTIC COAST DISTRICT, EXCLUSIVE OF LONG ISLAND SOUND: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound and trap nets.		Seines.		Gill nets.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	57,713,000	$3,282,000	7,322,000	$391,000	5,198,000	$204,000	18,073,000	$321,000	2,905,000	$107,000	1,892,000	$49,000	22,323,000	$2,209,000
Fish:														
Albacore, or horse mackerel	10,000	400			10,000	400	500	(2)						
Alewives	551,000	5,300			106,000	1,100	316,000	2,400	108,000	1,600	17,000	100	4,300	100
Bluefish	3,106,000	284,000	2,671,000	245,000	65,000	4,700	90,000	6,900	280,000	27,000				
Bonito	88,000	4,000	68,000	3,500	12,000	700	6,800	300						
Butterfish	264,000	16,000			257,000	15,000	5,400	300	1,300	100				
Carp, German	386,000	31,000					271,000	23,000	22,000	1,400	21,000	1,400	72,000	4,400
Catfish and bullheads	111,000	6,900	1,100	100	500	100	20,000	1,300	25,000	1,800	61,000	3,500	3,200	200
Cod	2,943,000	97,000	2,879,000	94,000	40,000	1,600	2,000	100	19,000	900			2,500	100
Croaker	7,500	200					7,500	200						
Eels	614,000	48,000	9,500	600	19,000	1,900	48,000	2,800	400	(2)	26,000	2,200	511,000	40,000
Flounders	2,724,000	73,000	98,000	3,300	693,000	23,000	117,000	4,000	44,000	1,700	1,586,000	33,000	186,000	7,000
Haddock	424,000	12,000	424,000	12,000										
Hake	39,000	1,000	39,000	1,000										
Kingfish	11,000	1,700			9,900	1,500	800	200	200	(2)				
Ling	22,000	300	21,000	300			400	(2)						
Mackerel	51,000	3,900	15,000	800	15,000	1,000	100	(2)	20,000	2,000				
Mackerel, chub	28,000	1,200			27,000	1,100	1,000	100						
Menhaden	11,540,000	20,000			955,000	1,100	9,600,000	17,000	985,000	1,300				
Perch, white	90,000	8,700			3,500	400	31,000	3,200	41,000	3,900	14,000	1,300		
Perch, yellow	26,000	1,400					3,200	200	800	100	20,000	1,000	2,000	100
Pollack	106,000	2,800	60,000	1,700	30,000	700					16,000	400		
Scup, or porgy	1,259,000	43,000	5,600	200	18,000	900	1,235,000	42,000			200	(2)		
Sea bass	672,000	31,000	439,000	22,000	16,000	1,200	203,000	7,300	14,000	1,000	(2)	(2)		
Sea robin	20,000	300			19,000	300	1,000	(2)						
Shad	358,000	27,000			4,400	600	27,000	1,800	323,000	24,000	3,700	400	500	(2)
Skates	105,000	600	91,000	500	14,000	100								
Smelt	4,000	900							2,600	600	1,400	300		
Spot	49,000	1,700			9,000	200	200	(2)	39,000	1,500				
Squeteague, or weakfish	9,424,000	372,000	27,000	1,000	2,645,000	141,000	5,817,000	198,000	935,000	32,000	100	(2)		
Striped bass	32,000	5,300	2,000	300	5,900	1,000	16,000	2,700	6,700	1,000	1,400	200		
Sturgeon	20,000	2,500			400	(2)	500	(2)	19,000	2,400	100	(2)		
Caviar	1,000	1,300							1,000	1,300				
Suckers	108,000	6,000					30,000	1,700	300	(2)	61,000	3,500	17,000	900
Sunfish	6,800	300					400	(2)	(2)	(2)	6,200	300	200	(2)
Tautog	20,000	700	2,700	200	16,000	500	600	(2)			800	(2)		
Tomcod	77,000	1,300			12,000	200	3,000	100			62,000	1,000		
Whitebait	199,000	5,700					179,000	4,900			2,600	(2)	18,000	900
Whiting	135,000	1,600			135,000	1,600	300	(2)						
All other	7,400	400	2,100	(2)	1,300	(2)	2,100	100	500	100	200	(2)	1,200	100
Crabs, hard	575,000	7,300	467,000	4,700	9,500	200	38,000	500			6,600	200	54,000	1,700
Crabs, soft	22,000	2,300											22,000	2,300
Lobster	332,000	45,000							500	100			331,000	45,000
Shrimp	1,500	600											1,500	600
Clams, hard	[4] 583,000	146,000											[4] 583,000	146,000
Clams, soft	[5] 318,000	26,000											[5] 318,000	26,000
Clams, surf	[6] 160,000	14,000											[6] 160,000	14,000
Mussels	[7] 8,175,000	8,200											[7] 8,175,000	8,200
Oysters, market, from public areas	[8] 147,000	17,000											[8] 147,000	17,000
Oysters, market, from private areas	[9] 10,408,000	1,780,000											[9] 10,408,000	1,780,000
Oysters, seed, from public areas	[10] 458,000	34,000											[10] 458,000	34,000
Oysters, seed, from private areas	[11] 840,000	79,000											[11] 840,000	79,000
Scallops	[12] 7,200	1,400											[12] 7,200	1,400
Squid	48,000	1,900			48,000	1,900								
Skins, muskrat	(2)	(2)											(2)	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 21,146,000 pounds, valued at $2,108,000; eel and lobster pots, 776,000 pounds, valued at $78,000; dip nets, 140,000 pounds, valued at $9,000; harpoons, spears, etc., 92,000 pounds, valued at $7,500; beam trawls, 178,000 pounds, valued at $6,700; and minor apparatus, 400 pounds, valued at $100.

[2] Less than $100.
[3] Less than 100 pounds.
[4] 73,000 bushels.
[5] 32,000 bushels.
[6] 20,000 bushels.
[7] 818,000 bushels.
[8] 21,000 bushels.
[9] 1,487,000 bushels.
[10] 66,000 bushels.
[11] 120,000 bushels.
[12] 900 gallons.

TABLE 3.—NEW YORK—FISHERY PRODUCTS OF LONG ISLAND SOUND: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Fyke and hoop nets.		Lines.		Gill nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	13,761,000	$1,109,000	5,673,000	$205,000	840,000	$24,000	111,000	$5,700	224,000	$3,500	52,000	$2,800	6,862,000	$867,000
Fish:														
Alewives	103,000	1,700	81,000	1,700	20,000	100					1,500	(2)		
Bluefish	85,000	6,900	69,000	5,300			2,200	200	13,000	1,400	400	(2)		
Bonito	14,000	900	8,900	600			5,300	300						
Butterfish	965,000	49,000	961,000	49,000					3,500	200				
Cod	56,000	1,800	11,000	400			45,000	1,500						
Eels	77,000	6,600	300	(2)									77,000	6,600
Flounders	1,906,000	68,000	993,000	41,000	797,000	25,000	15,000	800	6,300	200	4,500	200	90,000	2,700
Kingfish	23,000	3,200	23,000	3,100			100	(2)	400	100				
Mackerel	55,000	2,800	45,000	2,400			500	(2)	10,000	300				
Mackerel, thimble-eyed	30,000	1,800	30,000	1,500										
Menhaden	1,222,000	2,600	1,057,000	2,300					165,000	300				
Pollack	27,000	700	19,000	500			7,500	200						
Scup, or porgy	35,000	1,500	31,000	1,500			600	(2)						
Sea bass	50,000	4,200	23,000	1,800			27,000	2,300						
Shad	2,500	300	2,500	300										
Skates	63,000	1,500	62,000	1,500			(2)	(2)	800	(2)				
Spot	60,000	1,000	60,000	1,000										
Squeteague, or weakfish	1,727,000	79,000	1,674,000	77,000			1,500	100	19,000	900	33,000	1,500		
Striped bass	14,000	2,300	9,500	1,500			100	(2)			4,100	700		
Sturgeon	5,600	600	5,600	600										
Tautog	61,000	2,400	37,000	1,400	13,000	500	6,100	300	1,000	(2)	3,600	100		
Tomcod	20,000	1,000	4,600	400	10,000	400					5,000	200		
Whiting	133,000	2,100	133,000	2,100										
All other	122,000	1,200	118,000	1,000					1,300	(2)			2,800	200
Oysters, market, from public areas	[4] 3,700	500											[4] 3,700	500
Oysters, market, from private areas	[5] 2,387,000	374,000											[5] 2,387,000	374,000
Oysters, seed, from public areas	[6] 170,000	11,000											[6] 170,000	11,000
Oysters, seed, from private areas	[7] 2,830,000	257,000											[7] 2,830,000	257,000
Clams, hard	[8] 226,000	77,000											[8] 226,000	77,000
Clams, soft	[9] 338,000	29,000											[9] 338,000	29,000
Clams, surf	[10] 6,500	500											[10] 6,500	500
Lobster	92,000	12,000	6,700	900									85,000	11,000
Scallops	[11] 643,000	97,000											[11] 643,000	97,000
Crabs, hard	5,400	100	3,000	(2)					100	(2)			2,300	(2)
Squid	141,000	6,200	140,000	6,100					2,000	100				
All other	63,000	100	63,000	100										

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 6,603,000 pounds, valued at $846,000; eel and lobster pots, 149,000 pounds, valued at $17,000; beam trawls, 90,000 pounds, valued at $2,700; harpoons, spears, etc., 17,000 pounds, valued at $1,300; and minor apparatus, 3,000 pounds, valued at $300.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 500 bushels.
[5] 341,000 bushels.
[6] 24,000 bushels.
[7] 404,000 bushels.
[8] 28,000 bushels.
[9] 34,000 bushels.
[10] 800 bushels.
[11] 80,000 gallons.

TABLE 4.—NEW YORK—FISHERY PRODUCTS OF LAKE ERIE: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Lines.		Pound and trap nets.		Gill nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Valne.
Total	4,188,000	$130,000	53,000	$5,700	51,000	$2,800	4,084,000	$121,000
Black bass	1,800	100	1,800	100			(1)	(2)
Carp, German	16,000	300			2,500	100	13,000	200
Catfish and bullheads	14,000	800	13,000	700	200	(2)	400	(2)
Lake herring	2,009,000	49,000	(1)	(2)	7,600	200	2,001,000	49,000
Lake trout	6,200	300					6,200	300
Perch, yellow	83,000	2,900	1,100	(2)	1,800	100	80,000	2,800
Pike and pickerel	1,700	100					1,700	100
Pike perch (blue pike)	1,805,000	54,000	23,000	2,300	12,000	600	1,770,000	51,000
Pike perch (sauger)	40,000	2,000					40,000	2,000
Pike perch (wall-eyed pike)	2,800	300	1,000	100	1,500	200	200	(2)
Sturgeon	42,000	6,600	12,000	2,000	4,200	600	25,000	4,000
Caviar	2,400	2,400	500	500	300	300	1,700	1,700
Suckers	40,000	1,100			19,000	700	21,000	400
Whitefish	123,000	9,800					123,000	9,800
All other	2,100	100	(1)	(2)	1,900	100	200	(2)

[1] Less than 100 pounds.
[2] Less than $100.

TABLE 5.—NEW YORK—FISHERY PRODUCTS OF LAKE ONTARIO: 1908.[1]

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound and trap nets.		Seines.		Gill nets.		Fyke and hoop nets.		Dip nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	823,000	$74,000	266,000	$39,000	84,000	$4,300	54,000	$2,700	199,000	$14,000	219,000	$13,000	1,500	$100
Black bass	36,000	5,000	36,000	5,000	400	(2)								
Carp, German	4,700	200			2,200	100			200	(2)	2,300	100		
Catfish and bullheads	122,000	12,000	45,000	5,200	9,500	1,000					68,000	6,200		
Eels	44,000	2,500	300	(2)	8,400	500			1,600	100	33,000	2,000		
Lake herring	35,000	1,700			4,500	100			28,000	1,500	1,800	100		
Muskallunge	19,000	1,200	19,000	1,200										
Perch, yellow	35,000	1,100			7,500	300			8,000	300	20,000	600		
Pike and pickerel	87,000	9,400	65,000	7,700	10,000	700			1,100	100	11,000	900		
Pike perch (blue pike)	100,000	5,000			18,000	700			81,000	4,300	300	(2)		
Pike perch (wall-eyed pike)	54,000	6,700	51,000	6,500	500	100			100	(2)	1,800	200		
Sturgeon	37,000	5,800	27,000	4,100	800	100			9,400	1,600				
Caviar	4,700	3,800	4,500	3,600					200	200				
Suckers	128,000	6,400			5,000	100	54,000	2,700	10,000	400	57,000	2,200	1,500	100
Sunfish	24,000	600			12,000	200			400	(2)	12,000	300		
Trout, brook	18,000	6,300	18,000	6,300										
Trout, lake	14,000	1,100							6,100	500	8,200	700		
Whitefish	56,000	6,400			4,200	400			52,000	5,000				
All other	3,400	100			100	(2)					3,200	100		

[1] All taken in the shore and boat fisheries.
[2] Less than $100.

TABLE 6.—NEW YORK—FISHERY PRODUCTS, BY DISTRICTS: 1908.

SPECIES.	AGGREGATE.		ATLANTIC COAST DISTRICT.						GREAT LAKES DISTRICT.					
			Total.		Long Island Sound.		All other waters.		Total.		Lake Erie.		Lake Ontario.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	76,485,000	$4,594,000	71,474,000	$4,390,000	13,761,000	$1,109,000	57,713,000	$3,282,000	5,011,000	$203,000	4,188,000	$130,000	823,000	$74,000
Fish	47,504,000	1,566,000	42,493,000	1,362,000	6,856,000	244,000	35,638,000	1,119,000	5,011,000	203,000	4,188,000	130,000	823,000	74,000
Squeteague, or weakfish	11,151,000	451,000	11,151,000	451,000	1,727,000	79,000	9,424,000	372,000						
Bluefish	3,191,000	291,000	3,191,000	291,000	85,000	6,900	3,106,000	284,000						
Flounders	4,629,000	141,000	4,629,000	141,000	1,906,000	68,000	2,724,000	73,000						
Cod	2,999,000	99,000	2,999,000	99,000	56,000	1,800	2,943,000	97,000						
Pike perch	2,001,000	68,000							2,001,000	68,000	1,847,000	56,000	153,000	12,000
Butterfish	1,229,000	64,000	1,229,000	64,000	965,000	49,000	264,000	16,000						
Eels	736,000	57,000	691,000	55,000	77,000	6,600	614,000	48,000	45,000	2,000	1,800	100	44,000	2,500
Herring, lake	2,044,000	51,000							2,044,000	51,000	2,009,000	49,000	35,000	1,700
Scup, or porgy	1,294,000	45,000	1,294,000	45,000	35,000	1,500	1,259,000	43,000						
Sea bass	723,000	35,000	723,000	35,000	50,000	4,200	672,000	31,000						
Carp, German	406,000	31,000	386,000	31,000			386,000	31,000	20,000	500	16,000	300	4,700	200
Shad	360,000	27,000	360,000	27,000	2,500	300	358,000	27,000						
Sturgeon and caviar	113,000	23,000	27,000	4,400	5,600	600	21,000	3,800	86,000	19,000	44,000	9,000	42,000	9,600
Menhaden	12,762,000	22,000	12,762,000	22,000	1,222,000	2,600	11,540,000	20,000						
Catfish and bullheads	247,000	20,000	111,000	6,900			111,000	6,900	136,000	13,000	14,000	800	122,000	12,000
Whitefish	179,000	15,000							179,000	15,000	123,000	9,800	56,000	5,400
Haddock	424,000	12,000	424,000	12,000			424,000	12,000						
Suckers	251,000	12,000	108,000	6,100			108,000	6,000	143,000	5,800	15,000	400	128,000	5,400
Pike and pickerel	90,000	9,600	800	100			800	100	89,000	9,600	1,700	100	87,000	9,400
Perch, white	90,000	8,700	90,000	8,700	100	(1)	90,000	8,700						
Striped bass	45,000	7,600	45,000	7,600	14,000	2,300	32,000	5,300						
Alewives	654,000	7,100	654,000	7,100	103,000	1,700	551,000	5,300						
Mackerel	106,000	6,600	106,000	6,600	55,000	2,800	51,000	3,900						
Trout, brook	18,000	6,300							18,000	6,300			18,000	6,300
Whitebait	199,000	5,700	199,000	5,700			199,000	5,700						
Bonito	102,000	5,400	102,000	5,400	14,000	900	88,000	4,600						
Perch, yellow	144,000	5,400	26,000	1,400			26,000	1,400	118,000	4,000	83,000	2,900	35,000	1,100
Black bass	38,000	5,100	(2)	(1)			(2)	(1)	38,000	5,100	1,800	100	36,000	5,000
Kingfish	34,000	4,900	34,000	4,900	23,000	3,200	11,000	1,700						
Whiting	268,000	3,700	268,000	3,700	133,000	2,100	135,000	1,600						
Pollack	133,000	3,500	133,000	3,500	27,000	700	106,000	2,800						
Tautog	81,000	3,100	81,000	3,100	61,000	2,400	20,000	700						
Mackerel, thimble-eyed	58,000	2,900	58,000	2,900	30,000	1,800	28,000	1,200						
Spot	109,000	2,600	109,000	2,600	60,000	1,000	49,000	1,700						
Tomcod	97,000	2,300	97,000	2,300	20,000	1,000	77,000	1,300						
Skates	168,000	2,100	168,000	2,100	63,000	1,500	105,000	600						
Trout, lake	20,000	1,400							20,000	1,400	6,200	300	14,000	1,100
Muskallunge	19,000	1,200							19,000	1,200	100	(1)	19,000	1,100
All other	290,000	6,200	238,000	4,800	122,000	1,200	116,000	3,600	53,000	1,400	25,000	700	28,000	600
Oysters		2,553,000		2,553,000		643,000		1,910,000						
Market	[2] 12,946,000	2,173,000	12,946,000	2,173,000	2,391,000	375,000	10,555,000	1,798,000						
Seed	[4] 4,298,000	381,000	4,298,000	381,000	3,000,000	268,000	1,298,000	112,000						
Clams	[3] 1,632,000	292,000	1,632,000	292,000	571,000	106,000	1,061,000	186,000						
Scallops	[5] 650,000	98,000	650,000	98,000	643,000	97,000	7,200	1,400						
Lobster	423,000	57,000	423,000	57,000	92,000	12,000	332,000	45,000						
Crabs	602,000	9,700	602,000	9,700	5,400	100	597,000	9,600						
Mussels	8,175,000	8,200	8,175,000	8,200			8,175,000	8,200						
Squid	189,000	8,100	189,000	8,100	141,000	6,200	48,000	1,900						
All other	65,000	700	65,000	700	63,000	100	1,600	600						

[1] Less than $100.
[2] Less than 100 pounds.
[3] 1,299,000 bushels.
[4] 614,000 bushels.
[5] 204,000 bushels.
[6] 81,000 gallons.

TABLE 7.—NEW YORK—PRODUCTS, BY CLASS OF FISHERIES: 1908.

SPECIES.	TOTAL.		VESSEL FISHERIES.		SHORE AND BOAT FISHERIES.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	76,485,000	$4,594,000	41,697,000	$2,860,000	34,788,000	$1,734,000
Fish:						
Albacore, or horse mackerel	10,000	400	500	(1)	10,000	400
Alewives	654,000	7,000			654,000	7,000
Black bass	38,000	5,100			38,000	5,100
Bluefish	3,191,000	291,000	2,918,000	268,000	273,000	22,000
Bonito	102,000	5,400	11,000	700	90,000	4,800
Butterfish	1,229,000	64,000	6,400	400	1,222,000	64,000
Carp, German	406,000	31,000	1,100	200	405,000	31,000
Catfish and bullheads	247,000	20,000	1,800	200	245,000	20,000
Cod	2,999,000	99,000	1,592,000	59,000	1,407,000	39,000
Croaker	7,500	200	7,500	200		
Dogfish	42,000	600			42,000	600
Eels	736,000	57,000	140,000	11,000	596,000	46,000
Flounders	4,629,000	141,000	1,221,000	30,000	3,408,000	111,000
Haddock	424,000	12,000	34,000	1,300	390,000	11,000
Hake	39,000	1,000			39,000	1,000
Kingfish	34,000	4,900	200	(1)	34,000	4,900
Lake herring	2,044,000	51,000	1,064,000	25,000	979,000	26,000
Ling	24,000	400	2,100	(1)	22,000	300
Mackerel	106,000	6,600	26,000	2,000	80,000	4,600
Mackerel, thimble-eyed	58,000	2,900			58,000	2,900
Menhaden	12,762,000	22,000	10,440,000	18,000	2,322,000	4,000
Muskallunge	19,000	1,200			19,000	1,200
Perch, white	90,000	8,700	100	(1)	90,000	8,700
Perch, yellow	144,000	5,400	57,000	1,800	87,000	3,600
Pike and pickerel	90,000	9,600	800	100	89,000	9,500
Pike perch (blue pike)	1,904,000	59,000	1,356,000	38,000	548,000	21,000
Pike perch (sauger)	40,000	2,000	12,000	500	28,000	1,500
Pike perch (wall-eyed pike)	56,000	7,000			56,000	7,000
Pollack	133,000	3,500	2,500	100	130,000	3,500
Scup, or porgy	1,294,000	45,000	1,238,000	42,000	55,000	2,600
Sea bass	723,000	35,000	455,000	16,000	268,000	19,000
Sea robin	53,000	500	1,000	(1)	52,000	500
Shad	360,000	27,000			360,000	27,000
Skates	168,000	2,100			168,000	2,100
Smelt	4,000	900			4,000	900
Spanish mackerel	500	100	100	(1)	400	100
Spot	109,000	2,600	33,000	1,300	76,000	1,400
Squeteague, or weakfish	11,151,000	451,000	6,382,000	216,000	4,769,000	235,000
Striped bass	45,000	7,600	1,200	300	44,000	7,300
Sturgeon	105,000	15,000	100	(1)	105,000	15,000
Caviar	8,100	7,500			8,100	7,500
Suckers	276,000	13,000	5,300	(1)	271,000	13,000
Sunfish	31,000	900			31,000	900
Swordfish	3,600	200	3,600	200		
Tautog	81,000	3,100	1,300	(1)	80,000	3,000
Tomcod	97,000	2,300	1,600	100	95,000	2,200
Trout, brook	18,000	6,300			18,000	6,300
Trout, lake	20,000	1,400	6,100	300	14,000	1,100
Whitebait	199,000	5,700	2,100	200	197,000	5,500
Whitefish	179,000	15,000	99,000	7,700	81,000	7,300
Whiting	268,000	3,700	300	(1)	268,000	3,700
All other	50,000	300	2,100	100	48,000	200
Crabs, hard	580,000	7,400	57,000	1,100	523,000	6,300
Crabs, soft	22,000	2,300			22,000	2,300
Crabs, king	56,000	100			56,000	100
Crabs, spider	7,200	(1)			7,200	(1)
Lobster	423,000	57,000	127,000	18,000	296,000	40,000
Shrimp	1,500	600			1,500	600
Clams, hard	[2]809,000	223,000	241,000	70,000	568,000	153,000
Clams, soft	[3]656,000	54,000	18,000	1,800	638,000	52,000
Clams, surf	[4]167,000	14,000	117,000	9,600	49,000	4,700
Mussels	8,175,000	8,200	50,000	1,600	8,125,000	6,600
Oysters, market	[5]12,946,000	2,173,000	9,516,000	1,594,000	3,430,000	579,000
Oysters, seed	[6]4,298,000	381,000	4,013,000	358,000	286,000	22,000
Scallops	[7]680,000	98,000	430,000	64,000	250,000	35,000
Squid	189,000	8,100			189,000	8,100
Turtles	200	(1)			200	(1)
Skins, muskrat	[8]100	(1)			100	(1)

[1] Less than $100.
[2] 101,000 bushels.
[3] 66,000 bushels.
[4] 21,000 bushels.
[5] 1,849,000 bushels.
[6] 614,000 bushels.
[7] 81,000 gallons.
[8] 200 skins.

TABLE 8.—NEW YORK—PRODUCTS OF VESSEL FISHERIES, BY DISTRICTS: 1908.

SPECIES.	AGGREGATE.		ATLANTIC COAST DISTRICT.						LAKE ERIE.	
			Total.		Long Island Sound.		All other waters.			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	41,697,000	$2,860,000	39,097,000	$2,787,000	5,349,000	$585,000	33,747,000	$2,201,000	2,601,000	$73,000
Fish	27,128,000	742,000	24,528,000	669,000	176,000	7,000	24,351,000	662,000	2,601,000	73,000
Bluefish	2,918,000	268,000	2,918,000	268,000	4,400	500	2,914,000	268,000		
Squeteague	6,382,000	216,000	6,382,000	216,000	3,800	200	6,378,000	216,000		
Cod	1,592,000	59,000	1,592,000	59,000	40,000	1,300	1,552,000	58,000		
Scup, or porgy	1,238,000	42,000	1,238,000	42,000	200	(1)	1,238,000	42,000		
Pike perch	1,308,000	38,000							1,308,000	38,000
Flounders	1,221,000	30,000	1,221,000	30,000	93,000	2,800	1,128,000	28,000		
Lake herring	1,064,000	25,000							1,064,000	25,000
Menhaden	10,440,000	18,000	10,440,000	18,000			10,440,000	18,000		
Sea bass	455,000	16,000	455,000	16,000	13,000	1,100	442,000	15,000		
Eels	140,000	11,000	140,000	11,000	6,600	600	133,000	11,000		
Whitefish	99,000	7,700							99,000	7,700
Mackerel	26,000	2,000	26,000	2,000	10,000	300	16,000	1,700	57,000	1,800
Perch, yellow	57,000	1,800								
Haddock	34,000	1,300	34,000	1,300			34,000	1,300		
Spot	33,000	1,300	33,000	1,300			33,000	1,300		
All other	59,000	3,000	47,000	2,600	4,400	200	43,000	2,400	12,000	400
Oysters, market	[1]9,516,000	1,594,000	9,516,000	1,594,000	1,683,000	232,000	7,833,000	1,362,000		
Oysters, seed	[2]4,013,000	358,000	4,013,000	358,000	2,979,000	267,000	1,033,000	91,000		
Clams	[3]376,000	82,000	376,000	82,000	70,000	15,000	307,000	67,000		
Scallops	[4]430,000	64,000	430,000	64,000	425,000	63,000	4,800	1,000		
Lobster	127,000	18,000	127,000	18,000	15,000	1,900	112,000	16,000		
Mussels	50,000	1,600	50,000	1,600			50,000	1,600		
Crabs, hard	57,000	1,100	57,000	1,100			57,000	1,100		

[1] Less than $100.
[2] 1,359,000 bushels.
[3] 573,000 bushels.
[4] 47,000 bushels.
[5] 54,000 bushels.

TABLE 9.—NEW YORK—FISHERY PRODUCTS: 1908, 1898–99, 1890, AND 1880.

SPECIES.	1908		1898-99		1890		1880	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	76,485,000	$4,594,000	218,458,000	$3,787,000	200,559,000	$4,859,000	333,523,000	$4,381,000
Fish	47,504,000	1,566,000	194,630,000	1,436,000	161,736,000	1,576,000	318,257,000	2,212,000
Bluefish	3,191,000	291,000	11,214,000	387,000	5,740,000	250,000	3,000,000	68,000
Butterfish	1,229,000	64,000	471,000	15,000	424,000	13,000		
Carp, German	406,000	31,000	297,000	12,000				
Catfish and bullheads	247,000	20,000	757,000	29,000	865,000	24,000		
Cod	2,999,000	99,000	2,046,000	69,000	1,939,000	79,000	3,580,000	67,000
Eels	736,000	57,000	521,000	34,000	1,937,000	110,000		
Flounders	4,629,000	141,000	877,000	28,000	1,576,000	45,000		
Herring	2,046,000	51,000	3,468,000	47,000	2,406,000	49,000		
Menhaden	12,762,000	22,000	163,280,000	405,000	128,736,000	341,000	288,931,000	1,115,000
Pike perch	2,001,000	68,000	1,039,000	43,000	826,000	50,000		
Scup, or porgy	1,294,000	45,000	645,000	14,000	369,000	7,300		
Sea bass	723,000	35,000	311,000	14,000	751,000	41,000		
Shad	360,000	27,000	1,829,000	63,000	3,777,000	190,000	2,734,000	137,000
Squeteague	11,151,000	451,000	2,057,000	54,000	2,960,000	117,000	4,000,000	120,000
Sturgeon and caviar	113,000	23,000	1,225,000	105,000	2,291,000	84,000	144,000	8,600
All other	3,617,000	140,000	4,638,000	117,000	7,110,000	175,000	15,868,000	697,000
Oysters	[1]17,244,000	2,553,000	[2]14,436,000	1,985,000	[3]16,456,000	2,458,000	[4]7,303,000	1,577,000
Clams	[5]1,632,000	292,000	[6]2,321,000	267,000	[7]5,782,000	711,000	[8]6,203,000	518,000
Scallops	[9]650,000	98,000	[10]653,000	53,000	[11]596,000	71,000		
Lobster	422,000	57,000	332,000	30,000	150,000	15,000	135,000	5,100
All other	9,631,000	27,000	6,085,000	16,000	15,838,000	28,000	1,625,000	69,000

[1] 2,463,000 bushels.
[2] 2,902,000 bushels.
[3] 2,351,000 bushels.
[4] 1,043,000 bushels.
[5] 294,000 bushels.
[6] 290,000 bushels.
[7] 723,000 bushels.
[8] 775,000 bushels.
[9] 81,000 gallons.
[10] 82,000 gallons.
[11] 74,000 gallons.

TABLE 10.—NEW YORK—PRODUCTS OF SHORE AND BOAT FISHERIES, BY DISTRICTS: 1908.

SPECIES.	AGGREGATE.		ATLANTIC COAST DISTRICT.						GREAT LAKES DISTRICT.					
			Total.		Long Island Sound.		All other waters.		Total.		Lake Erie.		Lake Ontario.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	34,788,000	$1,734,000	32,377,000	$1,604,000	8,412,000	$523,000	23,965,000	$1,080,000	2,410,000	$130,000	1,588,000	$57,000	823,000	$74,000
Fish	20,376,000	824,000	17,966,000	694,000	6,679,000	237,000	11,287,000	457,000	2,410,000	130,000	1,588,000	57,000	823,000	74,000
Squeteague, or weakfish	4,769,000	235,000	4,769,000	235,000	1,723,000	79,000	3,045,000	155,000						
Flounders	3,408,000	111,000	3,408,000	111,000	1,812,000	65,000	1,596,000	45,000						
Butterfish	1,222,000	64,000	1,222,000	64,000	965,000	49,000	258,000	15,000						
Eels	596,000	46,000	551,000	43,000	70,000	6,000	481,000	37,000						
Cod	1,407,000	39,000	1,407,000	39,000	15,000	600	1,392,000	39,000	45,000	2,000	1,800	100	44,000	2,500
Carp, German	405,000	31,000	385,000	30,000			385,000	30,000	20,000	500	16,000	300	4,700	200
Pike perch	633,000	30,000							633,000	30,000	480,000	18,000	153,000	12,000
Shad	360,000	27,000	360,000	27,000	2,500	300	358,000	27,000						
Herring, lake	979,000	26,000							979,000	26,000	944,000	24,000	35,000	1,700
Sturgeon and caviar	113,000	23,000	27,000	4,400	5,600	600	21,000	3,700	86,000	19,000	44,000	9,000	42,000	9,600
Bluefish	273,000	22,000	273,000	22,000	81,000	6,500	193,000	16,000						
Catfish and bullheads	245,000	20,000	109,000	6,700			109,000	6,700	136,000	13,000	14,000	800	122,000	12,000
Sea bass	268,000	19,000	268,000	19,000	37,000	3,100	231,000	16,000						
Suckers	251,000	12,000	108,000	6,100			108,000	6,100	143,000	5,900	15,000	400	128,000	5,400
Haddock	390,000	11,000	390,000	11,000			390,000	11,000						
Pike and pickerel	89,000	9,600	800	100			800	100	88,000	9,500	800	100	87,000	9,400
Perch, white	90,000	8,700	90,000	8,700	100	(1)	90,000	8,660						
Whitefish	81,000	7,500							81,000	7,500	24,000	2,100	56,000	5,400
Striped bass	44,000	7,300	44,000	7,300	14,000	2,300	30,000	5,000						
Alewives	654,000	7,100	654,000	7,100	103,000	1,700	551,000	5,300						
Trout, brook	18,000	6,300							18,000	6,300			18,000	6,300
Whitebait	197,000	5,500	197,000	5,500			197,000	5,500						
Black bass	38,000	5,100	(2)	(1)			(2)	(1)	38,000	5,100	1,800	100	36,000	5,000
Kingfish	34,000	4,900	34,000	4,900	23,000	3,200	11,000	1,700						
Bonito	91,000	4,800	91,000	4,800	14,000	900	76,000	3,900						
Mackerel	80,000	4,600	80,000	4,600	45,000	2,500	35,000	2,200						
Menhaden	2,322,000	4,000	2,322,000	4,000	1,222,000	2,600	1,100,000	1,400						
Whiting	268,000	3,700	268,000	3,700	133,000	2,100	135,000	1,600						
Perch, yellow	87,000	3,600	26,000	1,400			26,000	1,400	62,000	2,200	26,000	1,100	35,000	1,100
Pollack	130,000	3,500	130,000	3,500	27,000	700	103,000	2,800						
Tautog	80,000	3,000	80,000	3,000	61,000	2,400	19,000	700						
Mackerel, thimble-eyed	58,000	2,900	58,000	2,900	30,000	1,800	28,000	1,200						
Scup, or porgy	55,000	2,600	55,000	2,600	35,000	1,500	21,000	1,100						
Tomcod	95,000	2,200	95,000	2,200	18,000	900	77,000	1,300						
Skates	168,000	2,100	168,000	2,100	63,000	1,500	105,000	600						
Spot	76,000	1,400	76,000	1,400	60,000	1,000	15,000	400						
Muskallunge	19,000	1,200							19,000	1,200	100	(1)	19,000	1,200
Trout, lake	14,000	1,100							14,000	1,100	(2)	(1)	14,000	1,100
All other	268,000	5,600	221,000	4,300	119,000	1,000	102,000	3,200	47,000	1,300	19,600	700	28,000	600
Oysters		601,000		601,000			145,000							
Market	[3] 3,430,000	579,000	3,430,000	579,000	708,000	143,000	2,722,000	436,000						
Seed	[4] 286,000	22,000	286,000	22,000	21,000	1,300	265,000	21,000						
Clams	[5] 1,256,000	210,000	1,256,000	210,000	501,000	91,000	755,000	119,000						
Lobster	296,000	40,000	296,000	40,000	76,000	10,000	220,000	29,000						
Scallops	[6] 220,000	35,000	220,000	35,000	217,000	34,000	2,500	400						
Crabs	545,000	8,600	545,000	8,600	5,400	100	540,000	8,500						
Squid	189,000	8,100	189,000	8,100	141,000	6,200	48,000	1,900						
Mussels	8,125,000	6,900	8,125,000	6,900			8,125,000	6,900						
All other	65,000	700	65,000	700	63,000	100	1,600	600						

[1] Less than $100.
[2] Less than 100 pounds.
[3] 490,000 bushels.
[4] 41,000 bushels.
[5] 157,000 bushels.
[6] 27,000 gallons.

NORTH CAROLINA.

Among the states in which commercial fishing was pursued in 1908, North Carolina ranked eleventh in the value of fishery products. The chief fishing grounds of the state were Albemarle, Pamlico, and Core Sounds, and their tributary rivers. Among the important rivers were the Cape Fear, New, Roanoke, Shallotte, Newport, North, and Neuse. Many smaller sounds and rivers also contributed to the fishery product of the state.

The following tabular statement gives a general summary of the statistics of the North Carolina fisheries in 1908:

Number of persons employed	9,681
Capital:	
Vessels and boats, including outfit	$533,000
Apparatus of capture	367,000
Shore and accessory property and cash	370,000
Value of products	1,776,000

Comparison with previous canvasses.—In prior canvasses of the fisheries of North Carolina, the United States Bureau of Fisheries enumerated among the shoresmen employees of the canning and packing industries allied to the fishing industry. These are, however, excluded in the following tabular statement, which shows the general statistics of the fishing industry for certain years:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	9,637	$901,000	$533,000	$367,000	101,422,000	$1,776,000
1902	11,592	1,157,000	583,000	574,000	67,585,000	1,740,000
1897	10,120	705,000	354,000	411,000	64,234,000	1,316,000
1890	7,478	634,000	288,000	346,000	51,799,000	1,028,000
1880	4,729	388,000	162,000	225,000	32,249,000	846,000

An increase in the number of persons employed was shown at each canvass up to and including that of 1902, and this was accompanied by increases in all the other items given in the above statement. From 1902 to 1908, however, there was a decline in the number of persons employed and a corresponding decrease in the value of both classes of equipment. The vessels engaged in fishing and transporting show a decrease of $79,000 in value since 1902. Products, on the other hand, continued to increase in both quantity and value.

The following tabular statement distributes, by class of fisheries, the number of persons employed in the years for which canvasses have been made from 1880 to 1908:

YEAR.	PERSONS EMPLOYED, EXCLUSIVE OF SHORESMEN.			
	Total.	In vessel fisheries.	On transporting vessels.	In shore and boat fisheries.
1908	9,637	639	427	8,571
1902	11,592	1,100	433	10,059
1897	10,120	455	202	9,463
1890	7,478	251	175	7,052
1889	7,180	253	140	6,787
1888	6,603	150	138	6,315
1887	6,243	172	140	5,931
1880	4,729			

Persons employed.—The distribution of the persons employed is given in the following tabular statement:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	9,681	[1] 4,803	3	4,875	$546,000	$1,800	[2] $544,000
Vessel fisheries	639	58	2	579	81,000	1,860	79,000
Transporting vessels	427	113	.....	314	48,000	.....	48,000
Shore and boat fisheries	8,571	4,632	1	3,938	410,000	(3)	410,000
Shoresmen	44	.....	.....	44	6,900	.....	6,900

[1] Exclusive of 214 proprietors not fishing.
[2] Includes provisions furnished to the value of $34,000.
[3] Less than $100.

The vessel fisheries gave employment in 1908 to only a small percentage of the total number of persons reported. The shore and boat fisheries are credited with 8,571 persons, or 89 per cent of the total number, while only 1,066, or 11 per cent, were engaged in the vessel fisheries and on the transporting vessels. Only 44 shoresmen were reported. By far the larger number of persons reported for vessel fisheries and transporting vessels were wage-earners. For the shore and boat fisheries of North Carolina a larger proportion of wage-earners and a smaller proportion of independent fishermen were reported than for the same class of fisheries in other states.

Many of the persons employed in the industry fished only a part of the year, and during the remainder of the time engaged in farming and other occupations.

Equipment and other capital.—The next tabular statement gives the distribution, by class of investment, of the total capital employed in the fisheries of North Carolina.

The total investment in 1908 in fishing and transporting vessels and their outfits was $282,000, which was greater than the investment in boats by $30,000. The value of vessels and apparatus of capture pertaining to vessel fisheries was only $308,000, or one-half

as much as the value of the apparatus of capture and boats used in the shore and boat fisheries, which amounted to $593,000.

CLASS OF INVESTMENT	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$1,270,000		
Vessels, including outfit	282,000	299	2,815
Fishing	137,000	99	1,135
Steam and motor	69,000	15	356
Vessels	59,000		
Outfit	9,500		
Sail	68,000	84	779
Vessels	54,000		
Outfit	14,000		
Transporting	145,000	200	1,680
Steam and motor	52,000	29	225
Vessels	35,000		
Outfit	17,000		
Sail	93,000	171	1,455
Vessels	73,000		
Outfit	20,000		
Boats	251,000	4,984	
Steam and motor	118,000	433	
Sail	98,000	2,272	
Row	33,000	2,218	
Other	2,000	61	
Apparatus of capture	367,000		
Vessel fisheries	26,000		
Shore and boat fisheries	341,000		
Shore and accessory property	350,000		
Cash	19,000		

The investment in apparatus of capture in the shore and boat fisheries was nearly thirteen times as great as that in the vessel fisheries. The importance of this item is shown by the fact that in 1902 it represented 28 per cent and in 1908, 27 per cent of the total investment in the fisheries of the state. The decrease from 1902 to 1908 in the value of the investment in apparatus of capture, which was from $574,000 to $367,000, is chargeable entirely to the shore and boat fisheries, for the value of the apparatus of capture used in the vessel fisheries increased more than $5,000.

The numbers of the principal kinds of apparatus of capture employed, all of which, except 16 gill nets, 10 eel pots, 41 seines, and 12 traps, were used in shore and boat fisheries, were as follows:

Bow nets	338	Pound nets	3,997
Cast nets	54	Seines	1,538
Crab nets	628	Shrimp nets	45
Dip nets	40	Stop nets	4
Fyke nets	416	Mink, muskrat, and otter traps	582
Gill nets	42,225	Turtle nets	149
Harpoons, spears, etc	64	Wheels and slides	25
Pots, eel	4,289		

Products, by species.—The fishery products of the state, distributed by species and by apparatus of capture, are shown in Table 1, on page 215.

The product of the North Carolina fisheries included more than 40 species of fish, besides frogs, crabs, shrimp, terrapin, turtles, clams, and oysters; the skins of mink, muskrats, and otter; whalebone and whale oil; and the hides and oil of porpoises.

Of the important products, shad, oysters, mullet, and clams showed large decreases in 1908 in both quantity and value. Almost the entire increase in the total quantity of products is accounted for by the unprecedented size of the menhaden catch. Although this amounted to 40,000,000 pounds more than in 1902, it caused an increase in value of only $40,000. While the catches of some of the other species increased in both quantity and value, the increase in the total value for the state was due chiefly to the general increase in the price per pound received for fishery products.

In the following tabular statement the quantity and value reported for some of the important products are given for 1902 and 1908:

SPECIES.	FISHERY PRODUCTS.			
	1908		1902	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Shad	3,942,000	$373,000	6,567,000	$385,000
Oysters	5,690,000	236,000	7,160,000	268,000
Squeteague	4,635,000	206,000	3,781,000	156,000
Mullet	5,070,000	175,000	6,705,000	188,000
Alewives	10,928,000	140,000	11,173,000	116,000
Clams	720,000	82,000	1,175,000	87,000
Menhaden	57,412,000	70,000	18,862,000	31,000

The total weight of the 1908 product was 101,422,000 pounds and its total value $1,776,000. The 40 species of fish reported contributed 94,133,000 pounds, valued at $1,406,000, or 94 per cent of the weight and 79 per cent of the value. Shad constituted the most valuable product and oysters ranked second, the value of the former being $373,000, or 21 per cent of the total value reported, and that of the latter $236,000, or 13 per cent of the total value. Three species of fish—squeteague, mullet, and alewives—for which values of $206,000, $175,000, and $140,000, respectively, were reported, ranked next in importance. For no other product was a value as great as $100,000 reported; but clams worth $82,000 were taken, and crabs and 16 species of fish each added from $10,000 to $70,000 to the total value of the product.

Products, by class of fisheries.—The products of the shore and boat fisheries and of the vessel fisheries are given in detail, by species and apparatus of capture, in Tables 2 and 3, on pages 216 and 217, respectively.

The next tabular statement distributes, by species, arranged in the order of value, the total value of products for the state as a whole and for each class of fisheries.

The catch of the shore and boat fisheries aggregated 45,556,000 pounds, or 44 per cent of the total weight, and was valued at $1,613,000, or 91 per cent of the total value of the fishery products of the state. Shad contributed 22 per cent of the total value reported for this class of fisheries, representing a larger percentage of the value than any other species. Squeteague, mullet, and oysters each furnished more than 10 per cent of the total value.

The catch of the vessel fisheries was 55,865,000 pounds, or 55 per cent of the total quantity for the state; but its value was only $163,000, or 9 per cent

of the total value. The values of the menhaden and oyster products each formed about 40 per cent of the value reported for vessel fisheries. Next to these the most valuable product was shad, which had a value of $13,000, or 8 per cent of the value credited to this class of fisheries.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,776,000	$163,000	$1,613,000
Fish	1,406,000	99,000	1,307,000
Shad	373,000	13,000	360,000
Squeteague	206,000	5,200	201,000
Mullet	175,000	1,400	173,000
Alewives	140,000	4,700	136,000
Menhaden	70,000	66,000	4,200
Bluefish	45,000	700	45,000
Perch, white	44,000	(1)	44,000
Black bass	40,000	(1)	40,000
Striped bass	36,000	500	36,000
Spanish mackerel	34,000	1,300	33,000
Croaker	31,000	500	31,000
Butterfish	29,000		29,000
Kingfish, or whiting	28,000	1,000	27,000
Hickory shad	20,000	500	20,000
Flounders	16,000	300	16,000
Spot	16,000	300	15,000
Perch, yellow	14,000	(1)	14,000
Pigfish	14,000	(1)	14,000
Sheepshead	12,000	700	11,000
Catfish	11,000	(1)	11,000
All other	52,000	2,400	49,000
Oysters	236,000	64,000	172,000
Clams	82,000		82,000
Crabs	34,000		34,000
All other	18,000	(1)	18,000

[1] Less than $100.

The value of fish proper constituted 81 per cent of the total value of the catch in the case of shore and boat fisheries and 61 per cent in the case of vessel fisheries. Two-thirds of the value of the fish taken in the vessel fisheries represented the value of menhaden.

Products, by apparatus of capture.—The following tabular statement shows the distribution by apparatus of capture, arranged in the order of the value of their catch, of the total value of products, for the state as a whole and for each class of fisheries:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,776,000	$163,000	$1,613,000
Seines	591,000	96,000	495,000
Pound nets, trap nets, and weirs	391,000		391,000
Gill nets	376,000	700	375,000
Dredges, tongs, etc	307,000	64,000	243,000
Crab nets	29,000		29,000
Lines	21,000	2,500	18,000
Bow nets	16,000		16,000
All other	46,000	(1)	46,000

[1] Less than $100.

The products caught by seines contributed a larger part of the weight and value of the total fishery products than those taken by any other form of apparatus. Their value constituted 33 per cent of the total value of all products and their weight 70 per cent of the total quantity. The chief species caught by seines were mullet, squeteague, menhaden, black bass, alewives, and shad. Slightly more than five-sixths of the value of the products taken by this form of apparatus was secured from the shore and boat fisheries.

On the basis of the value of the product taken, pound nets, trap nets, and weirs formed the next most important class of fishing apparatus. Since 1880, when only 117 pound nets were used, this kind of apparatus has increased in importance, until in 1908, 3,997 pound nets, trap nets, and weirs were in use. The value of the product obtained by pound nets, including the comparatively small quantities taken by trap nets and weirs, amounted to $391,000, or 22 per cent of the value of all fishery products. These forms of apparatus were used only in the shore and boat fisheries and principally in the capture of shad and alewives.

Gill nets ranked second in importance with respect to the value of the product taken in 1902 and third in 1908. They were of little consequence in the vessel fisheries, but were extensively used in the shore and boat fisheries for catching shad, squeteague, mullet, bluefish, and numerous less important species. Dredges, tongs, and rakes yielded a product valued at $307,000, which consisted of clams, oysters, and crabs. Crab nets, lines, and bow nets followed in rank according to the value of product taken. The use of crab nets and bow nets was confined to the shore and boat fisheries, to which 88 per cent of the value of the catch by lines is also credited. With fyke nets various species of fish, having a total value of $8,600, were taken in the shore and boat fisheries.

Shad.—Shad has always been the chief product of the fisheries of North Carolina, and in 1908 the total catch was 3,942,000 pounds, valued at $373,000. This catch, however, contributed only 4 per cent of the total weight and 21 per cent of the total value of the fishery products of the state. The quantity was 40 per cent less than in 1902, but the value was only 3 per cent less than in that year. In 1902 the state ranked first in the shad catch, reporting 6,567,000 pounds, valued at $385,000; but in 1908 it was outranked by Virginia, both in the quantity and the value of shad taken. Of the total value of the catch of shad, 96 per cent was that of product obtained in the shore and boat fisheries, principally by means of pound nets and gill nets, though to some extent by seines and other apparatus. The quantity caught in the vessel fisheries, representing 4 per cent of the value, was obtained entirely by the use of seines and gill nets. This fish was taken chiefly in Cape Fear River and its tributaries, in Pamlico, Croatan, Roanoke, and Albemarle Sounds, and in the rivers tributary to these sounds.

Oysters.—The oyster yield ranked second in value, the total product in 1908 being 813,000 bushels, valued at $236,000. This represents a decrease, as compared with 1902, when 1,023,000 bushels were obtained, having a value of $268,000. The average price per bushel, however, increased from 26 cents in 1902 to 30 cents in 1908. Very little progress has been

made in the cultivation of oysters in North Carolina. The yield from private areas in 1908 was only 11,000 bushels, valued at $7,600. The following tabular statement presents statistics in respect to the yield of oysters in 1908:

KIND AND SOURCE.	OYSTER PRODUCT: 1908.	
	Quantity (bushels).	Value.
Total	813,000	$236,000
Market	754,000	227,000
From public areas	744,000	220,000
From private areas	9,500	7,300
Seed	59,000	8,800
From public areas	57,000	8,500
From private areas	2,000	300

The total yield of seed oysters from public and private areas in 1908 was only 59,000 bushels, valued at $8,800, of which value $5,000 represents the value of oysters taken in the vessel fisheries. The total yield of oysters from public areas was 801,000 bushels, valued at $228,000, or 99 per cent of the quantity and 97 per cent of the value of the total yield for the state. Oyster fishing was pursued mainly as a shore and boat fishery, only 27 per cent of the total value of the oyster product being obtained in the vessel fisheries.

Squeteague.—The catch of squeteague, which ranked third in importance in 1908 with respect to value, increased from 3,781,000 pounds, valued at $156,000, in 1902, to 4,635,000 pounds, valued at $206,000, in 1908. New York and New Jersey were the only states which had a larger and more valuable catch of this fish than North Carolina; Florida had a product slightly larger, but of smaller value. Ninety-six per cent of the total value reported for North Carolina was that of product taken in the shore and boat fisheries; and in this class of fisheries seines, pound nets, and gill nets accounted for all except 4 per cent of the value. Practically all of the value of the catch (over 99 per cent) was that of product sold fresh.

Mullet.—Mullet ranked fourth in value among the fishery products of North Carolina. The catch of this state, together with the much larger catch of Florida, represented 90 per cent of the value of the mullet caught in the United States. The quantity taken in North Carolina in 1908, though smaller than that taken in 1902, was greater than the catch in any previous year. In 1908 the mullet product amounted to 5,070,000 pounds, valued at $175,000, and in 1902 to 6,705,000 pounds, valued at $188,000. Less than 1 per cent of the mullet catch of 1908 was reported by the vessel fisheries. Seines and gin nets were used in the capture of nearly the entire product. The fishermen sold 54 per cent of the fish fresh and the remainder salted. A little of the roe (800 pounds) was salted and sold separately.

Alewives.—The total alewife product in 1908 was 10,928,000 pounds, valued at $140,000, and was the smallest quantity recorded since 1880, when 15,520,000 pounds were taken. In 1902 the catch was 11,173,000 pounds, valued at $116,000, and in 1897 it was 15,790,000 pounds, valued at $127,000. Since 1897 this fish appears to have been less abundant. Like shad, it was caught mostly in the fresh waters; and 97 per cent of the value of the catch was contributed by the product of shore and boat fisheries. Of the total value, 73 per cent represented the value of the catch with pound nets and the remainder the value of that with seines, gill nets, fyke nets, and miscellaneous apparatus. Nearly two-thirds of the alewife product was sold fresh; and with the exception of a small quantity (1,200 pounds) which was smoked, the balance was sold salted.

Menhaden.—Of the states showing a menhaden catch, North Carolina ranked third in respect to quantity of product and fourth in respect to value, and was the most southern state in which this fish was taken in any quantity. The catch of 1908—57,412,000 pounds, valued at $70,000—was larger than that of any previous year, and showed an increase since 1902 of more than 204 per cent in quantity and 125 per cent in value. In 1902 the catch was 18,862,000 pounds, valued at $31,000, which was at that time the largest that had ever been taken in the state. This fish, though representing but 4 per cent of the value of all fishery products of the state, constituted 57 per cent of the total quantity. The catch was obtained almost wholly in the vessel fisheries, menhaden contributing 41 per cent of the total value and 96 per cent of the total quantity reported for this class of fisheries. Of the total value of the menhaden catch, only $4,200, or 6 per cent, was reported from the shore and boat fisheries. The entire catch in the vessel fisheries was secured by seines, but in the shore and boat fisheries, though seines were the chief apparatus used, about one-fourth of the catch was taken with gill nets and pound nets.

Other products.—Large increases since 1902 were shown in the quantity and value of crabs, bluefish, and Spanish mackerel. On the other hand, clams, black bass, striped bass, croakers, and other minor species each showed a decrease from the catch taken in 1902. The quantity of white perch increased from 941,000 pounds in 1902 to 993,000 pounds in 1908, but the price per pound decreased so that the total value was only $44,000 in 1908, as compared with $63,000 in 1902. This state ranked first in its catch of white perch, which contributed 32 per cent of the value of all white perch taken in the United States.

TABLE 1.—NORTH CAROLINA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Pound nets, trap nets, and weirs.		Gill nets.		Lines.		Fyke nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	101,422,000	$1,776,000	71,069,000	$501,000	14,040,000	$391,000	7,733,000	$376,000	574,000	$21,000	231,000	$8,600	7,774,000	$389,000
Fish:														
Alewives	10,928,000	140,000	2,491,000	34,000	8,085,000	102,000	164,000	2,200	.....	.....	24,000	300	165,000	1,600
Black bass	511,000	40,000	455,000	35,000	25,000	2,200	8,100	600	7,500	400	15,000	1,200	.....	.....
Bluefish	1,256,000	45,000	555,000	20,000	83,000	2,500	601,000	22,000	15,000	500	1,700	100	.....	.....
Bonito	11,000	200	.....	.....	9,500	200	1,100	(1)	.....	.....	.....	.....	.....	.....
Butterfish	1,262,000	29,000	98,000	3,100	1,084,000	24,000	120,000	2,200	.....	.....	.....	.....	.....	.....
Carp, German	228,000	7,000	154,000	4,600	20,000	600	5,500	200	8,400	300	5,300	200	35,000	1,100
Catfish	504,000	11,000	181,000	3,800	221,000	4,300	28,000	600	37,000	1,200	20,000	400	16,000	400
Croaker	1,177,000	31,000	626,000	14,000	225,000	12,000	280,000	4,700	45,000	900	100	(1)	400	(1)
Dogfish, or bowfin	101,000	1,400	53,000	600	10,000	100	1,100	(1)	1,800	100	30,000	300	5,300	200
Drum, salt-water	243,000	7,200	213,000	4,600	62,000	1,000	40,000	1,200	17,000	400	800	(1)	1,500	(1)
Eels	258,000	5,600	2,500	100	5,100	200	.....	.....	2,200	(1)	600	(1)	247,000	5,200
Flounders	403,000	16,000	256,000	10,000	80,000	4,100	31,000	1,100	2,800	100	300	(1)	33,000	1,000
Hickory shad	377,000	20,000	167,000	9,000	176,000	9,500	23,000	1,100	400	(1)	100	(1)	10,000	600
Jewfish	1,200	100	1,200	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish, or whiting	817,000	28,000	250,000	9,600	15,000	400	486,000	17,000	19,000	700	4,000	100	500	(1)
Menhaden	57,412,000	70,000	56,465,000	69,000	311,000	500	636,000	600	.....	.....	.....	.....	.....	.....
Moonfish (angel-fish, or spadefish)	53,000	1,300	2,900	100	49,000	1,200	.....	.....	500	(1)	.....	.....	.....	.....
Mullet	5,070,000	175,000	3,486,000	124,000	8,000	400	1,536,000	49,000	.....	.....	3,000	100	36,000	1,400
Mullet roe, salted	800	100	800	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Perch, white	993,000	44,000	452,000	19,000	365,000	17,000	87,000	3,400	8,800	400	75,000	3,800	4,800	200
Perch, yellow	360,000	14,000	227,000	9,600	97,000	3,300	21,000	1,000	2,300	100	13,000	500	300	(1)
Pigfish	476,000	14,000	315,000	8,600	3,000	100	107,000	3,200	50,000	2,200	100	(1)	300	(1)
Pike	69,000	3,100	51,000	2,300	14,000	700	2,400	100	.....	.....	1,100	(1)	(1)	(1)
Pinfish	373,000	4,300	203,000	2,300	128,000	1,400	41,000	700	400	(1)	.....	.....	.....	.....
Pompano	11,000	700	4,200	300	5,900	400	1,000	100	.....	.....	.....	.....	.....	.....
Sailor's choice	39,000	1,800	34,000	1,700	.....	.....	100	(1)	5,000	200	.....	.....	.....	.....
Sea bass	72,000	3,200	1,100	(1)	.....	.....	2,000	100	68,000	3,100	.....	.....	.....	.....
Shad	3,942,000	373,000	401,000	34,000	1,569,000	144,000	1,887,000	186,000	.....	.....	6,500	600	78,000	7,900
Sheepshead	240,000	12,000	219,000	10,000	11,000	500	17,000	700	1,400	100	.....	.....	100	(1)
Skates	6,000	100	.....	.....	6,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Snapper	13,000	300	.....	.....	.....	.....	.....	.....	13,000	300	.....	.....	.....	.....
Spanish mackerel	457,000	34,000	103,000	8,400	143,000	8,500	208,000	17,000	2,300	200	800	100	200	(1)
Spot	852,000	16,000	584,000	10,000	34,000	600	218,000	4,500	16,000	500	200	(1)	400	(1)
Squeteague	4,635,000	206,000	2,425,000	115,000	873,000	32,000	1,090,000	51,000	229,000	7,900	6,000	300	12,000	500
Strawberry bass and crappie	24,000	1,000	6,800	300	5,500	200	1,400	100	2,600	100	7,700	300	200	(1)
Striped bass	510,000	36,000	177,000	12,000	215,000	15,000	38,000	2,700	6,200	500	2,400	200	71,000	5,700
Sturgeon	62,000	6,400	34,000	3,800	21,000	1,800	6,000	800	.....	.....	.....	.....	800	100
Suckers	63,000	2,000	39,000	1,000	9,700	400	11,000	500	200	(1)	.....	.....	3,200	100
Sunfish	165,000	5,600	113,000	3,700	14,000	600	13,000	600	9,900	400	14,000	200	300	(1)
All other	7,200	200	2,900	100	800	(1)	3,200	100	300	(1)	.....	.....	.....	.....
Frogs	5,400	900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,400	900
Crabs, soft	277,000	33,000	700	100	.....	.....	.....	.....	.....	.....	.....	.....	276,000	33,000
Crabs, hard	113,000	1,100	40,000	400	55,000	400	6,000	200	500	(1)	.....	.....	2,500	200
Shrimp	371,000	9,000	42,000	1,300	.....	.....	.....	.....	.....	.....	.....	.....	328,000	7,700
Terrapin	7,700	1,800	4,300	1,200	(1)	(1)	200	100	.....	.....	.....	.....	3,200	500
Turtles	23,000	700	9,800	300	.....	.....	700	(1)	.....	.....	.....	.....	13,000	400
Clams, hard	[4] 726,000	82,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 726,000	82,000
Oysters, market, from public areas	[5] 5,209,000	220,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 5,209,000	220,000
Oysters, market, from private areas	[6] 66,000	7,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 66,000	7,300
Oysters, seed, from public areas	[7] 401,000	8,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 401,000	8,500
Oysters, seed, from private areas	[8] 14,000	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 14,000	300
Whalebone	200	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	300
Skins, mink	[9] 100	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9] 100	500
Skins, muskrat	[10] 500	800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[10] 500	800
Skins, otter	(1)	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(1)	100
Porpoise hides	48,000	1,000	48,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porpoise oil	21,000	2,200	21,000	2,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whale oil	[11] 7,500	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[11] 7,500	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 5,907,000 pounds, valued at $307,000; crab nets, 245,000 pounds, valued at $20,000; bow nets, 263,000 pounds, valued at $16,000; shrimp nets, 328,000 pounds, valued at $7,700; pots, 243,000 pounds, valued at $5,100; harpoons, spears, etc., 51,000 pounds, valued at $2,800; cast nets, 46,000 pounds, valued at $1,900; wheels and slides, 123,000 pounds, valued at $1,900; dip nets, 14,000 pounds, valued at $1,200; mink, muskrat, and otter traps, 600 pounds, valued at $1,400; turtle nets, 14,000 pounds, valued at $400; stop nets, 9,400 pounds, valued at $300; and minor apparatus, 530,000 pounds, valued at $14,000.

[1] Less than $100.
[1] Less than 100 pounds.
[4] 91,000 bushels.
[5] 744,000 bushels.
[6] 9,500 bushels.
[7] 57,000 bushels.
[8] 2,000 bushels.
[9] 200 skins.
[10] 1,300 skins.
[11] 1,000 gallons.

TABLE 2.—NORTH CAROLINA—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Pound nets, trap nets, and weirs.		Gill nets.		Lines.		Fyke nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	45,556,000	$1,613,000	16,612,000	$495,000	14,040,000	$391,000	7,719,000	$375,000	519,000	$18,000	231,000	$8,600	6,436,000	$325,000
Fish:														
Alewives, fresh	7,257,000	83,000	1,347,000	19,000	5,587,000	61,000	146,000	1,900	.....	.....	24,000	300	155,000	1,400
Alewives, salted and smoked	3,204,000	53,000	678,000	11,000	2,498,000	41,000	18,000	300	.....	.....	.....	.....	10,000	200
Angel fish	52,000	1,300	2,900	100	49,000	1,200	.....	.....	.....	.....	.....	.....	.....	.....
Black bass	511,000	40,000	455,000	35,000	26,000	2,200	7,700	600	7,500	400	15,000	1,200	.....	.....
Bluefish, fresh	1,235,000	44,000	535,000	19,000	83,000	2,500	600,000	22,000	15,000	500	1,700	100	.....	.....
Bluefish, salted	1,400	100	1,400	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bonito	11,000	200	.....	.....	9,500	200	1,000	(2)	.....	.....	.....	.....	.....	.....
Butterfish	1,230,000	28,000	98,000	3,100	1,032,000	23,000	100,000	1,900	.....	.....	.....	.....	.....	.....
Carp, German	227,000	6,900	153,000	4,500	20,000	600	5,500	200	5,400	300	5,300	200	35,000	1,100
Catfish	553,000	11,000	181,000	3,800	221,000	4,300	28,000	600	37,000	1,200	20,000	400	16,000	400
Croaker	1,144,000	31,000	594,000	13,000	225,000	12,000	280,000	4,700	45,000	900	100	(1)	400	(1)
Dogfish, or bowfin	101,000	1,400	53,000	600	10,000	100	1,100	(1)	1,800	100	30,000	300	5,300	200
Drum, salt-water	343,000	7,200	213,000	4,600	62,000	1,000	49,000	1,200	17,000	400	800	(1)	1,500	(1)
Eels	257,000	5,500	2,500	100	5,100	200	.....	.....	2,200	(1)	600	(1)	246,000	5,200
Flounders	396,000	16,000	250,000	9,800	80,000	4,100	30,000	1,100	2,800	100	300	(1)	33,000	1,000
Harvest fish	72,000	1,300	.....	.....	52,000	1,000	20,000	300	.....	.....	.....	.....	.....	.....
Hickory shad, fresh	354,000	19,000	144,000	7,600	176,000	9,500	25,000	1,100	400	(1)	100	(1)	10,000	600
Hickory shad, salted	17,000	1,000	17,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jewfish	1,200	100	1,200	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingfish, or whiting	786,000	27,000	263,000	8,600	15,000	400	485,000	17,000	19,000	700	4,000	100	500	(1)
Menhaden	3,918,000	4,200	2,971,000	3,100	311,000	500	636,000	600	.....	.....	.....	.....	.....	.....
Mullet, fresh	3,146,000	93,000	1,576,000	56,000	8,000	400	1,242,000	37,000	.....	.....	3,000	100	17,000	600
Mullet, salted	1,875,000	80,000	1,568,000	67,000	.....	.....	288,000	12,000	.....	.....	.....	.....	19,000	900
Mullet roe, salted	800	100	800	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Perch, white	992,000	44,000	451,000	19,000	355,000	17,000	87,000	3,400	8,800	400	75,000	3,800	4,800	200
Perch, yellow	360,000	14,000	227,000	9,600	97,000	3,300	20,000	900	2,300	100	13,000	500	300	(1)
Pickerel	474,000	14,000	313,000	8,500	3,000	100	107,000	3,200	50,000	2,200	100	(1)	300	(1)
Pike	68,000	3,200	51,000	2,300	14,000	700	2,200	100	.....	.....	1,100	(1)	(1)	(1)
Pinfish	371,000	4,300	201,000	2,200	128,000	1,400	41,000	700	400	(1)	.....	.....	.....	.....
Pompano	11,000	700	4,200	300	5,900	400	1,000	100	.....	.....	.....	.....	.....	.....
Sailor's choice	34,000	1,700	34,000	1,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sea bass	31,000	1,200	1,100	(1)	.....	.....	2,000	100	28,000	1,100	.....	.....	.....	.....
Shad	3,808,000	360,000	269,000	20,000	1,569,000	144,000	1,885,000	186,000	.....	.....	6,500	600	78,000	7,900
Sheepshead	232,000	11,000	202,000	9,600	11,000	500	17,000	700	1,400	100	.....	.....	100	(1)
Skates	6,000	100	.....	.....	6,000	100	.....	.....	.....	.....	.....	.....	.....	.....
Snapper	8,000	200	.....	.....	.....	.....	.....	.....	8,000	200	.....	.....	.....	.....
Spanish mackerel	438,000	33,000	85,000	7,100	143,000	8,500	208,000	17,000	900	100	800	100	200	(1)
Spot	835,000	15,000	567,000	9,900	34,000	600	218,000	4,500	16,000	500	200	(1)	400	(1)
Squeteague, fresh	4,454,000	200,000	2,255,000	109,000	873,000	32,000	1,083,000	51,000	227,000	7,800	6,000	300	11,000	500
Squeteague, salted	14,000	600	6,400	300	.....	.....	7,800	400	.....	.....	.....	.....	200	(1)
Strawberry bass and crappie	24,000	1,000	6,800	300	5,500	200	1,400	100	2,600	100	7,700	300	200	(1)
Striped bass	502,000	36,000	169,000	12,000	215,000	15,000	38,000	2,700	6,200	500	2,400	200	71,000	5,700
Sturgeon	62,000	6,400	34,000	3,800	21,000	1,800	5,700	800	.....	.....	.....	.....	800	100
Suckers	63,000	2,000	39,000	1,000	9,700	400	11,000	500	200	(1)	.....	.....	3,200	100
Sunfish	164,000	5,600	113,000	3,700	14,000	600	12,000	600	9,900	400	14,000	200	300	(2)
All other	7,200	200	2,900	100	800	(2)	3,200	100	300	(1)	.....	.....	.....	.....
Frogs	5,400	900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,400	900
Crabs, hard	113,000	1,100	49,000	400	55,000	400	6,000	200	500	(1)	.....	.....	2,900	200
Crabs, soft	277,000	33,000	700	100	.....	.....	.....	.....	.....	.....	.....	.....	276,000	33,000
Shrimp	371,000	9,000	42,000	1,300	.....	.....	.....	.....	.....	.....	.....	.....	328,000	7,700
Terrapin	7,700	1,800	4,300	1,200	(2)	(2)	200	100	.....	.....	.....	.....	3,200	500
Turtles	23,000	700	9,800	300	.....	.....	700	(2)	.....	.....	.....	.....	13,000	400
Clams, hard	[4] 726,000	82,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 726,000	82,000
Oysters, market, from public areas	[5] 4,088,000	161,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 4,088,000	161,000
Oysters, market, from private areas	[6] 66,000	7,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 66,000	7,300
Oysters, seed, from public areas	[7] 185,000	3,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 185,000	3,500
Oysters, seed, from private areas	[8] 14,000	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 14,000	300
Whalebone	200	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200	300
Skins, mink	[9] 100	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9] 100	500
Skins, muskrat	[10] 500	800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[10] 500	800
Skins, other	(2)	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(2)	100
Porpoise hides	48,000	1,000	48,000	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porpoise oil	[11] 21,000	2,200	[11] 21,000	2,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whale oil	[12] 7,500	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[12] 7,500	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 4,570,000 pounds, valued at $243,000; crab nets, 245,000 pounds, valued at $29,000; bow nets, 263,000 pounds, valued at $16,000; shrimp nets, 328,000 pounds, valued at $7,700; pots, 242,000 pounds, valued at $5,000; harpoons, spears, etc., 51,000 pounds, valued at $2,800; cast nets, 46,000 pounds, valued at $1,900; mink, muskrat, and otter traps, 600 pounds, valued at $1,400; dip nets, 14,000 pounds, valued at $1,200; turtle nets, 14,000 pounds, valued at $400; stop nets, 9,400 pounds, valued at $300; and minor apparatus, 530,000 pounds, valued at $14,000.

[2] Less than $100.
[3] Less than 100 pounds.
[4] 91,000 bushels.
[5] 584,000 bushels.
[6] 9,500 bushels.
[7] 26,000 bushels.
[8] 2,000 bushels.
[9] 200 skins.
[10] 1,300 skins.
[11] 2,800 gallons.
[12] 1,000 gallons.

TABLE 3.—NORTH CAROLINA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Seines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	55,865,000	$163,000	54,457,000	$96,000	14,000	$700	1,394,000	$67,000
Fish:								
Alewives	467,000	4,700	467,000	4,700	.....	.....	.....	.....
Bluefish	20,000	700	19,000	600	1,000	(2)	300	(2)
Croaker	33,000	500	32,000	500	300	(2)	.....	.....
Flounders	6,900	300	6,400	300	500	(2)	.....	.....
Hickory shad	6,000	500	6,000	500	.....	.....	.....	.....
Kingfish, or whiting	30,000	1,000	30,000	1,000	400	(2)	.....	.....
Menhaden	53,494,000	66,000	53,494,000	66,000	.....	.....	.....	.....
Mullet, fresh	39,000	1,000	38,000	1,000	1,000	(2)	.....	.....
Mullet, salted	10,000	400	4,000	200	6,000	200	.....	.....
Sailor's choice	5,100	200	.....	.....	100	(2)	5,000	200
Sea bass	41,000	2,000	.....	.....	.....	.....	41,000	2,000
Shad	134,000	13,000	132,000	13,000	1,900	200	.....	.....
Sheepshead	17,000	700	17,000	700	200	(2)	.....	.....
Snapper	5,000	100	.....	.....	.....	.....	5,000	100
Spanish mackerel	19,000	1,300	18,000	1,200	.....	.....	1,400	100
Spot	17,000	300	17,000	300	.....	.....	.....	.....
Squeteague	166,000	5,200	164,000	5,100	.....	.....	2,300	100
Striped bass	8,200	500	8,000	500	200	(2)	.....	.....
All other	5,600	100	3,200	100	2,400	100	2,000	100
Oysters, market, from public areas	[3] 1,121,000	59,000	.....	.....	.....	.....	[3] 1,121,000	59,000
Oysters, seed, from public areas	[4] 216,000	5,000	.....	.....	.....	.....	[4] 216,000	5,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,337,000 pounds, valued at $64,000; and lines, 56,000 pounds, valued at $2,500.
[2] Less than $100.
[3] 160,000 bushels.
[4] 31,000 bushels.

OHIO.

The fisheries of Ohio may be grouped in two divisions—those of Lake Erie and those of the Ohio River and its tributaries. The Ohio River fisheries are of very small proportions, the value of the products from this district forming only 2 per cent of the total value of the fishery product of the state.

Of the species taken in the fisheries of the state in 1908, that for which the greatest value was reported was lake herring, while German carp, blue pike, and other varieties of pike perch followed closely in importance.

The general statistics for the Ohio fisheries for 1908 are summarized in the following tabular statement:

Number of persons employed	2,054
Capital:	
Vessels and boats, including outfit	$356,000
Apparatus of capture	423,000
Shore and accessory property and cash	343,000
Value of products	840,000

Comparison with previous canvasses.—Statistics of the fisheries of Ohio as a whole are not available for former years, but figures for the Lake Erie fisheries of the state have been reported by the Bureau of Fisheries for certain years, and since the Lake Erie district contributes such a large proportion of the fishery product of the state, these figures give a fairly accurate idea of the fluctuations which have taken place.

As will be seen from the tabular statement given below, this district shows a marked recovery from a retrograde movement which culminated in 1903. The waters of Lake Erie are so shallow that it would be possible to catch all the fish in them, and such a condition was imminent in 1903. Warnings of the possible extinction of the fish in this lake were given in 1890 by the Commissioner of Fish and Fisheries, who called attention to an ominous decrease in the product since 1885.

The increase in fishery products which has taken place during recent years has not, however, extended to the fisheries of the Ohio River district, as will be seen from the following tabular statement, which gives statistics of the industry in both districts for 1908 in comparison with certain earlier years:

DISTRICT AND YEAR.	Persons employed, exclusive of shoremen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
Lake Erie district:						
1908	1,865	$775,000	$355,000	$421,000	27,216,000	$824,000
1903	874	391,000	185,000	206,000	10,749,000	317,000
1899	1,686	779,000	361,000	417,000	36,624,000	677,000
1890	1,925	985,000	387,000	598,000	44,322,000	619,000
Ohio River district:						
1908	153	3,400	1,000	2,400	1,700,000	16,000
1899	182	6,900	2,500	3,900	273,000	19,000
1894	309	14,000	3,300	10,000	1,239,000	59,000

The large increase in the weight of product in the Ohio River district is due entirely to the weight of mussel shells reported in 1908. Except for these products both the weight and the value of the Ohio River product would have been less than half as much in 1908 as in 1899, when no mussel-shell products were reported. The falling off in the product of the

Ohio River district after 1894 was due in a large measure to laws restricting fishermen to the use of hooks and lines in interior waters.

Persons employed.—Over 92 per cent of the persons engaged in fisheries in Ohio were employed in the Lake Erie district. Of the 36 shoresmen reported, 25 were engaged in the vessel fisheries and 11 in the shore and boat fisheries. Including shoresmen, therefore, the total number of persons connected with the vessel fisheries was 287 and the total number connected with the shore and boat fisheries 1,739.

The distribution of persons employed was as follows:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	2,054	[1] 830	14	1,210	$380,000	$11,000	[2] $369,000
Lake Erie district	1,901	733	14	1,154	378,000	11,000	367,000
Vessel fisheries	262	26	8	228	132,000	6,100	126,000
Transporting vessels	28	.....	.....	28	15,000	.....	15,000
Shore and boat fisheries	1,575	707	6	862	212,000	5,200	207,000
Shoresmen	[3] 36	.....	.....	36	18,000	.....	18,000
Ohio River district (shore and boat fisheries)	153	97	.....	56	2,100	.....	2,100

[1] Exclusive of 22 proprietors not fishing.
[2] Includes provisions furnished to the value of $9,300.
[3] Of these, 25 were employed in vessel fisheries and 11 in shore and boat fisheries.

Equipment and other capital.—The following tabular statement shows the distribution of the capital invested in the fisheries of the state:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Lake Erie district.	Ohio River district.
Total	$1,122,000	$1,118,000	$4,100
Vessels, including outfit	215,000	215,000	.....
Fishing	169,000	169,000	.....
Vessels	147,000	147,000	.....
Outfit	22,000	22,000	.....
Transporting	46,000	46,000	.....
Vessels	39,000	39,000	.....
Outfit	6,300	6,300	.....
Boats	141,000	140,000	1,000
Steam and motor	101,000	101,000	.....
Sail	2,400	2,400	.....
Row	15,000	15,000	1,000
Other	21,000	21,000	.....
Apparatus of capture	423,000	421,000	2,400
Vessel fisheries	89,000	89,000	.....
Shore and boat fisheries	334,000	331,000	2,400
Shore and accessory property	263,000	262,000	700
Cash	80,000	80,000	.....

Over 99 per cent of the total investment pertained to the Lake Erie district.

Of the value of shore and accessory property, $62,000 was reported for vessel fisheries and $201,000 for shore and boat fisheries. The entire amount returned under this head, with the exception of $700, represented investment in the Lake Erie fisheries.

The vessels reported were exclusively steam craft, and of the boats only 28, valued at $2,400, were sailboats. With the exception of 136 rowboats, all of the boats, as well as all of the vessels, were used in the Lake Erie fisheries. The number and tonnage of the vessels and the number of the boats were as follows:

Vessels:	
Fishing—	
Number	42
Tonnage	672
Transporting—	
Number	12
Tonnage	190
Boats, number	1,083
Steam and motor	279
Sail	28
Row	735
Other	41

The numbers of the principal kinds of apparatus reported for the state, of which all except 10 seines and 262 fyke and hoop nets were used in the Lake Erie district and all except 18,828 gill nets in the shore and boat fisheries, were as follows:

Fyke and hoop nets	1,226
Gill nets	25,030
Harpoons, spears, etc	83
Pound and trap nets	2,580
Seines	266
Trammel nets	521
Traps, muskrat	2,645
Turtle nets	220

Products, by species.—Table 1, on page 220, gives detailed statistics as to the products of the fisheries of Ohio, by species and by apparatus of capture. On the basis of value, lake herring was the most important fish taken, with German carp ranking second. If the different varieties of pike and pickerel and pike perch be considered together as one item, this class of fish takes the lead among the products, with a total weight of 9,743,000 pounds and a value of $359,000. The value of the above-named species—lake herring, carp, pike, pike perch, and pickerel—forms 76 per cent of the total value of the catch, while the remainder of the catch, considered in respect to both weight and value, is fairly well distributed among the other species reported.

Products, by fishing grounds.—Table 2, on page 220, gives detailed statistics regarding the fishery products of Lake Erie district, while Table 3, on page 221, gives similar statistics for the Ohio River district. Among the Ohio River products were three which were not reported for the Lake Erie fisheries, namely, buffalo fish, paddlefish, and the products of the mussel fisheries. The mussel products included mussel shells, pearls, and slugs, and were valued at $7,000, or somewhat less than half of the total value of the Ohio River product.

Products, by class of fisheries.—The products of the shore and boat fisheries amounted to 20,511,000 pounds, valued at $548,000, and those of the vessel fisheries to 8,405,000 pounds, valued at $291,000. All of the fisheries of the Ohio River district were of the shore and boat class, while for Lake Erie both classes of fisheries were reported. In the vessel fisheries of the latter district the following products were taken:

SPECIES.	PRODUCTS OF VESSEL FISHERIES OF LAKE ERIE DISTRICT: 1908.	
	Quantity (pounds).	Value.
Total	8,405,000	$291,000
Lake herring	4,227,000	129,000
Pike perch (wall-eyed pike)	1,998,000	78,000
Perch, yellow	883,000	36,000
Pike perch (blue pike)	915,000	30,000
Pike perch (sauger)	208,000	9,000
Whitefish	81,000	6,400
Pike and pickerel	23,000	1,700
All other[1]	68,000	900

[1] Includes products as follows: Suckers, 35,000 pounds, valued at $500; German carp, 9,800 pounds, valued at $200; drum or sheepshead 16,000 pounds, valued at $200; ling or eelpout, white bass, and trout, 7,600 pounds, valued at $100.

Products, by apparatus of capture.—Gill nets were not used in the Ohio River fisheries, but in the vessel fisheries of Lake Erie they were the only form of apparatus of capture employed. Pound and trap nets, though used only in the shore and boat fisheries of Lake Erie, took a greater number of species and a heavier catch than any other kind of apparatus. No single species of the 19 which were taken by them sufficiently predominated in weight to form the bulk of the catch; but the different varieties of pike, pickerel, and pike perch taken by pound and trap nets aggregated 5,763,000 pounds, valued at $202,000, and formed over one-half of the weight and about two-thirds of the value of the entire catch by this form of apparatus.

Seines, which were reported for the shore and boat fisheries only, were used in the capture of 13 species. The quantity of products thus taken in the Ohio River district was small, amounting to only 20,000 pounds, valued at $1,600, while in the shore and boat fisheries of Lake Erie products so caught aggregated 5,761,000 pounds, valued at $103,000. Of these Lake Erie products, 5,708,000 pounds represented German carp and contributed 99 per cent of the total value of the seine catch reported for this district.

Since mussel shells were the principal product of the Ohio River fisheries, the crowfoot dredges used for taking them were the leading apparatus of capture in that district.

Principal species.—Carp was the only one of the leading species for which a considerable increase in catch was shown in 1908, as compared with earlier years. The following tabular statement indicates the relation of the carp catch to the total fishery products of the Lake Erie district of Ohio for certain years:

YEAR.	GERMAN-CARP PRODUCT OF LAKE ERIE DISTRICT.			
	Quantity.		Value.	
	Pounds.	Per cent of total.	Amount.	Per cent of total.
1908	7,140,000	26	$127,000	15
1903	3,058,000	28	51,000	16
1899	3,417,000	9	47,000	7

The lake-herring catch, though larger than in 1903, retains only a fraction of its earlier importance, as is shown by the following tabular statement, and the decrease in this product accounts, in a large measure, for the decrease in the fishery product of Ohio from 1890 to 1903:

YEAR.	LAKE-HERRING PRODUCT OF LAKE ERIE DISTRICT.			
	Quantity.		Value.	
	Pounds.	Per cent of total.	Amount.	Per cent of total.
1908	4,792,000	18	$147,000	18
1903	1,531,000	14	68,000	21
1899	19,346,000	53	253,000	37
1890	27,889,000	62	282,000	46

The catch of blue pike in 1908 shows a pronounced increase in both quantity and value over those of the preceding two years for which statistics were compiled, as is indicated by the following tabular statement:

YEAR.	BLUE-PIKE PRODUCT OF LAKE ERIE DISTRICT.			
	Quantity.		Value.	
	Pounds.	Per cent of total.	Amount.	Per cent of total.
1908	4,004,000	15	$125,000	15
1903	1,733,000	16	68,000	21
1899	2,213,000	6	64,000	9
1890	3,995,000	9	66,000	11

TABLE 1.—OHIO—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Pound and trap nets.		Seines.		Fyke and hoop nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	28,917,000	$840,000	9,400,000	$336,000	9,783,000	$308,000	5,781,000	$105,000	1,714,000	$51,000	118,000	$7,700	2,121,000	$32,000
Fish:														
Buffalo fish	9,000	800					800	100	8,100	700	100	[2]		
Carp, German	7,158,000	129,000	57,000	1,300	525,000	8,700	5,713,000	102,000	384,000	7,100	2,300	200	476,000	9,100
Catfish and bullheads	565,000	25,000	7,200	300	261,000	12,000	14,000	800	130,000	6,200	87,000	5,500	5,400	300
Drum, or sheepshead	1,227,000	13,000	17,000	200	989,000	9,100	18,000	600	190,000	2,100	8,700	800	5,300	100
Lake herring	4,792,000	147,000	4,637,000	140,000	155,000	7,300								
Ling, or eelpout	100,000	1,300	7,700	100	84,000	1,100			8,800	100				
Paddlefish	1,600	100					1,600	100						
Perch, yellow	1,441,000	54,000	922,000	38,000	460,000	14,000			57,000	1,800	1,900	100		
Pike and pickerel	1,118,000	70,000	52,000	3,800	786,000	49,000	6,400	400	266,000	16,000	7,400	600		
Pike perch (blue pike)	4,004,000	125,000	1,026,000	34,000	2,902,000	88,000	[3]	[3]	77,000	2,600			[3]	[3]
Pike perch (sauger)	2,358,000	71,000	293,000	13,000	1,826,000	51,000	2,400	100	227,000	6,200	9,800	700		
Pike perch (wall-eyed pike)	2,263,000	93,000	1,998,000	78,000	249,000	14,000	100	[3]	15,000	1,000	100	[3]		
Sturgeon	8,600	700			5,100	500	3,300	200	[3]	[3]	200	[3]	[3]	[3]
Caviar	300	300			300	300					[3]	[3]		
Suckers	1,387,000	20,000	45,000	600	1,022,000	15,000	20,000	400	296,000	4,200	200	[3]	1,900	[3]
White bass	172,000	8,200	600	[3]	128,000	6,000	1,100	100	43,000	2,000				
Whitefish	732,000	60,000	337,000	27,000	391,000	33,000			4,100	300				
All other	5,600	100	[3]	[3]	1,000	[3]			4,900	[3]				
Mussel shells, pearls, and slugs	1,597,000	[4] 7,000											1,597,000	[4] 7,000
Frogs	4,000	600											4,000	600
Turtles	18,000	900					500	[3]					18,000	900
Skins, mink	[5] 100	400											[5] 100	400
Skins, muskrat	[6] 14,000	14,000											[6] 14,000	14,000

[1] Includes apparatus, with catch, as follows: Harpoons, spears, etc., 9,200 pounds, valued at $9,700; trammel nets, 489,000 pounds, valued at $9,400; crowfoot dredges, 1,597,000 pounds, valued at $7,000; traps, 4,500 pounds, valued at $4,500; turtle nets, 19,000 pounds, valued at $1,000; and minor apparatus, 3,400 pounds, valued at $600.
[2] Less than $100. [3] Less than 100 pounds. [4] Includes pearls and slugs valued at $400. [5] 150 skins. [6] 41,000 skins.

TABLE 2.—OHIO—FISHERY PRODUCTS OF LAKE ERIE DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Pound and trap nets.		Seines.		Fyke and hoop nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	27,216,000	$824,000	9,400,000	$336,000	9,783,000	$308,000	5,761,000	$103,000	1,665,000	$47,000	84,000	$4,500	524,000	$25,000
Fish:														
Carp, German	7,140,000	127,000	57,000	1,300	525,000	8,700	5,708,000	102,000	373,000	6,400	300	[2]	476,000	9,100
Catfish and bullheads	467,000	21,000	7,200	300	261,000	12,000	11,000	500	118,000	5,000	64,000	3,200	5,400	300
Drum, or sheepshead	1,207,000	11,000	17,000	200	989,000	9,100	13,000	100	183,000	1,500			5,300	100
Lake herring, fresh	4,780,000	147,000	4,625,000	139,000	155,000	7,300								
Lake herring, salted	12,000	400	12,000	400										
Ling, or eelpout	100,000	1,300	7,700	100	84,000	1,100			8,800	100				
Perch, yellow	1,441,000	54,000	922,000	38,000	460,000	14,000			57,000	1,800	1,900	100		
Pike and pickerel	1,118,000	70,000	52,000	3,800	786,000	49,000	6,400	400	266,000	16,000	7,400	600		
Pike perch (blue pike)	4,004,000	125,000	1,026,000	34,000	2,902,000	88,000	[3]	[3]	77,000	2,600			[3]	[3]
Pike perch (sauger)	2,358,000	71,000	293,000	13,000	1,826,000	51,000	2,400	100	227,000	6,200	9,800	600		
Pike perch(wall-eyed pike)	2,260,000	93,000	1,998,000	78,000	249,000	14,000			12,000	700				
Sturgeon	5,300	500			5,100	500			[3]	[3]	200	[3]	[3]	[3]
Caviar	300	300			300	300					[3]	[3]		
Suckers	1,377,000	19,000	45,000	600	1,022,000	15,000	18,000	300	291,000	3,800			1,900	[3]
White bass	172,000	8,200	600	[3]	128,000	6,100	1,000	100	43,000	2,000				
Whitefish	732,000	60,000	337,000	27,000	391,000	33,000			4,100	300				
All other	5,900	100	[3]	[3]	1,000	[3]			4,900	[3]				
Frogs	4,000	600											4,000	600
Turtles	18,000	900					500	[3]					18,000	900
Skins, mink	[4] 100	400											[4] 100	400
Skins, muskrat	[5] 14,000	14,000											[5] 14,000	14,000

[1] Includes apparatus, with catch, as follows: Harpoons, spears, etc., 9,200 pounds, valued at $9,700; trammel nets, 489,000 pounds, valued at $9,400; traps, 4,500 pounds, valued at $4,500; turtle nets, 19,000 pounds, valued at $1,000; and minor apparatus, 3,400 pounds, valued at $600.
[2] Less than $100. [3] Less than 100 pounds. [4] 150 skins. [5] 41,000 skins.

TABLE 3.—OHIO—FISHERY PRODUCTS OF OHIO RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Fyke and hoop nets.		Lines.		Crowfoot dredges.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds.)	Value.	Quantity (pounds).	Value.
Total	1,700,000	$16,000	20,000	$1,600	49,000	$4,000	35,000	$3,200	1,597,000	$7,000
Fish:										
Buffalo fish	9,000	800	800	100	8,100	700	100	[1]		
Carp, German	18,000	1,200	5,000	200	11,000	700	2,000	200		
Catfish and bullheads	38,000	3,700	2,500	200	12,000	1,200	23,000	2,200		
Drum, or sheepshead	20,000	1,800	4,800	500	6,400	600	8,700	800		
Paddlefish	1,600	100	1,600	100						
Pike perch (wall-eyed pike)	2,700	300	100	[1]	2,400	200	100	[1]		
Sturgeon	3,300	200	3,200	200						
Suckers	10,000	700	2,100	200	7,900	500	200	[1]		
Mussel shells, pearls, and slugs	1,597,000	[2] 7,000							1,597,000	[2] 7,000

[1] Less than $100. [2] Includes pearls and slugs valued at $400.

OKLAHOMA.

The commercial fisheries of Oklahoma, all of which were of the shore and boat class, were confined to the Arkansas River. The statistics for 1908 are given in the following summary:

Number of fishermen	3
Capital	$50
Boats—	
Number	3
Value	$35
Apparatus of capture	$10
Shore and accessory property	$5
Products:	
Total quantity (pounds)	6,700
Total value	$300
Drum, fresh-water—	
Pounds	4,500
Value	$200
Buffalo fish—	
Pounds	1,200
Value	$50
Catfish—	
Pounds	1,000
Value	$60

OREGON.

The fishing grounds of Oregon may be grouped in two districts, comprising, respectively, the Columbia River and its tributaries, and the Pacific Ocean together with the rivers emptying into it other than the Columbia. Most of the coast rivers are short, and their descent is so rapid that fishing is confined to within a few miles of the ocean. The Rogue and Umpqua Rivers, however, furnish abundant fishing for the sportsman, but little commercial fishing is done on either river east of the Coast Range. Trout are found in all the mountain streams, while salmon ascend the rivers in small numbers as far east as the Cascade Range. The fishing industry of the state shows a healthy growth, and the product is being rapidly extended to include other species than salmon, which was for years the only species taken to any extent. The general statistics for 1908 are as follows:

Number of persons employed	4,772
Capital:	
Vessels and boats, including outfit	$508,000
Apparatus of capture	795,000
Shore and accessory property and cash	65,000
Value of products	1,356,000

Comparison with previous canvasses.—The number of persons employed in 1908 was 4,772, as compared with 3,609 reported for 1904 by the Bureau of Fisheries, exclusive of 1,690 employed on shore in canneries, etc. The returns of the Bureau of the Census exclude employees in canneries and include but three shoresmen. During the period between the two canvasses, vessels and boats increased in value from $369,000 to $508,000, or 38 per cent; apparatus of capture, from $645,000 to $795,000, or 23 per cent; and products, from $1,185,000 to $1,356,000, or 14 per cent.

The following tabular statement gives a comparison of the number of persons employed, the capital invested in vessels, boats, and apparatus of capture, and the value of products in 1908, with the figures for certain earlier years for which statistics are available:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	4,769	$1,303,000	$508,000	$795,000	28,217,000	$1,356,000
1904	3,609	1,015,000	369,000	645,000	27,535,000	1,185,000
1899	3,806	762,000	275,000	487,000	22,818,000	856,000
1895	4,322	841,000	267,000	574,000	38,142,000	1,282,000
1892	2,822	809,000	265,000	544,000	28,521,000	872,000
1888	3,098	724,000	287,000	438,000	25,892,000	1,034,000

Persons employed.—The distribution of the persons employed in the fisheries of Oregon in 1908, according to the character of their connection with the industry, is shown in the following table for the state as a whole and for the two main fishery districts:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908. Number. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Salaries and wages. Total.	Salaries.	Wages.
Total	4,772	[1] 2,224	2	2,546	$478,000	$800	[2] $477,000
Transporting vessels	99	7	.....	92	26,000	.....	26,000
Shore and boat fisheries	4,670	2,217	2	2,451	451,000	800	450,000
Shoresmen	3	.....	.....	3	200	.....	200
Columbia River district	3,778	1,722	2	2,054	417,000	800	416,000
Transporting vessels	81	6	.....	75	22,000	.....	22,000
Shore and boat fisheries	3,697	1,716	2	1,979	395,000	800	394,000
Pacific coast district	994	502	.....	492	61,000	.....	61,000
Transporting vessels	18	1	.....	17	4,300	.....	4,300
Shore and boat fisheries	973	501	.....	472	56,000	.....	56,000
Shoresmen	3	.....	.....	3	200	.....	200

[1] Exclusive of 31 proprietors not fishing.

[2] Includes provisions furnished to the value of $12,000.

Of the total number of persons employed in the fisheries of the state, 79 per cent were credited to the Columbia River district and 21 per cent to the Pacific coast district. Wage-earners constituted nearly two-thirds of the total number employed, and the amount disbursed in wages was equal to more than one-third of the total value of products. The wage-earners engaged in shore and boat fishing formed 96 per cent of all wage-earners, and received 95 per cent of the total wages paid.

Equipment and other capital.—The distribution of the value of equipment and of the amount of other capital employed in the Oregon fisheries in 1908 is given below.

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Columbia River district.	Pacific coast district.
Total	$1,368,000	$1,208,000	$160,000
Transporting vessels (steam and motor), including outfit	140,000	114,000	26,000
Vessels	125,000	101,000	24,000
Outfit	15,000	13,000	2,700
Boats	367,000	316,000	51,000
Steam and motor	112,000	89,000	23,000
Sail	233,000	215,000	17,000
Row	18,000	6,900	11,000
Other	5,400	5,100	300
Apparatus of capture	795,000	718,000	77,000
Shore and accessory property and cash	65,000	59,000	5,300

No vessels were engaged in fishing in the state during the year, all vessels reported being used exclusively for transporting fish and fish products. Vessels thus engaged numbered 44, with a total net tonnage of 565. Seven of these, having a tonnage of 78, were engaged in the Pacific coast fisheries, while the 37 vessels reported for the Columbia River district in 1908 were employed on the Columbia and Willamette Rivers. In 1904 the number of transporting vessels reported was 35, valued at $116,000, and the value of their outfit was $14,000. The number of boats reported was 2,312, which comprised 216 steam and motor boats, 1,528 sailboats, 523 rowboats, and 45 scows. Of these several kinds of boats, the Columbia River district reported 198, 1,355, 191, and 31, respectively. The investment in boats of all kinds shows an increase of 54 per cent since 1904.

The proportion of the capital invested in apparatus of capture is large, on account of the expensive seines and nets used in the salmon fisheries and the great expense of constructing and locating the wheels used on the Columbia River.

The nets, traps, seines, and wheels reported were distributed as follows:

KIND.	APPARATUS OF CAPTURE: 1908.[1] Total.	Columbia River district.	Pacific coast district.
Fyke nets	35	35	.....
Gill nets	3,981	2,931	1,050
Hoop nets and traps	2,143	1,700	443
Pound nets	17	17	.....
Seines	100	58	42
Wheels	31	31	.....

[1] All reported by shore and boat fisheries.

Gill nets are used principally in the salmon fisheries. The number reported in 1908 represents an increase in the four years between the two canvasses of 1,350, or 51 per cent, as compared with the number in 1904—2,631. Thirty wheels were reported in 1904 and 31 in 1908. They were all located on the Columbia River and their catch in 1908 included salmon and sturgeon. The seines reported in 1908 numbered 100, as compared with 50 in 1904. Of those reported in 1908, 58 were in use in the Columbia River district and 42 in other waters. Those employed in the Columbia River fisheries were large seines of an average value of nearly $700, while the seines used in other waters averaged but $100 each in value. No pound nets were reported by the Bureau of Fisheries in 1904.

Fyke nets have increased in number, while hoop nets and traps have decreased.

Products, by species.—Table 1, on page 224, shows for 1908 the quantity and value of the fishery products of the state, by species and by apparatus of capture.

The total product increased from 27,533,000 pounds, valued at $1,185,000, in 1904, to 28,217,000 pounds, valued at $1,356,000, in 1908, an increase of 3 per cent in quantity and 14 per cent in value. In 1904 there were 15 species of products, as compared with 21 in 1908. Those not reported in earlier canvasses were cultus cod, flounders, sculpin, squeteague, or sea trout, black snapper, sole, and tomcod, some of which were taken in considerable quantities. The value of the salmon catch represented 96 per cent of the total value of products in 1908. The bulk of the Oregon salmon product was of the chinook variety, which contributed 68 per cent of the total weight and 81 per cent of the total value of salmon reported for the state.

Products, by fishing grounds.—Tables 2 and 3, on pages 224 and 225, give the fishery products, by species and apparatus of capture, for the Columbia River and Pacific coast districts, respectively, and the following tabular statement shows, for the state as a whole and for the two districts, the distribution by principal species of the total value of products in 1908:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Columbia River district.	Pacific coast district.
Total	$1,356,000	$1,186,000	$170,000
Fish	1,329,000	1,172,000	157,000
Salmon	1,301,000	1,148,000	152,000
Chinook	1,056,000	1,011,000	45,000
Silver	109,000	21,000	88,000
Steelhead	109,000	95,000	14,000
Blueback	20,000	20,000	.....
Dog, or chum	7,000	1,800	5,200
Catfish	9,000	9,000	.....
Shad	8,000	7,400	600
Sturgeon	6,800	6,800	.....
All other	4,600	600	4,000
Crawfish	14,000	14,000	.....
Crabs	6,900	.....	6,900
Oysters	4,200	.....	4,200
Clams	2,000	.....	2,000

The following tabular statement shows, for 1908, the fishery products of the state according to fishing grounds:

FISHING GROUND.	FISHERY PRODUCTS: 1908. Quantity (pounds).	Value.
Total	28,217,000	$1,356,000
Columbia River	20,911,000	1,102,000
Nehalem, Tillamook, and Nestugga Rivers	2,405,000	40,000
Rogue River	990,000	37,000
Coquille River	1,293,000	26,000
Clackamas and Willamette Rivers	404,000	25,000
Coos Bay	628,000	20,000
Siuslaw River	845,000	17,000
Yaquina Bay and River	280,000	12,000
Alsea Bay and River	225,000	8,900
Umpqua River	140,000	3,200
Nekanakum River	50,000	900
All other	46,000	2,900

Products, by apparatus of capture.—Of the total quantity, 22,849,000 pounds were taken with gill nets; and of the gill-net catch, 22,246,000 pounds, or 97 per cent, represented salmon, valued at $1,061,000, or 82 per cent reported for the total salmon catch of the state.

Seines ranked second both in respect to the quantity and the value of the product taken. In addition to a large amount of salmon, considerable quantities of flounders, herring, and perch of the viviparous variety were included in the seine catch. The catch by wheels is confined to salmon and a few sturgeon.

In the following tabular statement the value of the total fishery product is distributed according to apparatus of capture, for the state and the two districts:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908. Total.	Columbia River district.	Pacific coast district.
Total	$1,356,000	$1,186,000	$170,000
Gill nets	1,076,000	931,000	144,000
Seines	152,000	142,000	10,000
Wheels	72,000	72,000	.....
Pots and traps	29,000	23,000	6,000
Pound nets	18,000	18,000	.....
Dredges, tongs, etc	7,200	.....	7,200
Lines	2,200	.....	2,200

Salmon.—As already indicated, salmon constituted the chief fishery product, and represented 95 per cent of the total quantity and 96 per cent of the total value of products reported. The increase between 1904 and 1908 in the quantity reported was 162,000 pounds, or less than 1 per cent, and in the value reported $150,000, or 13 per cent. There was a decrease in the quantity caught of the chinook and dog or chum species, although the value of each increased. Both the quantity and value of blueback, silver, and steelhead salmon increased.

The following tabular statement shows the quantity and value of salmon taken from the different fishing grounds in 1908:

FISHING GROUND.	SALMON PRODUCT: 1908. Quantity (pounds).	Value.
Total	26,876,000	$1,301,000
Columbia River	20,095,000	1,135,000
Nehalem, Tillamook, and Nestugga Rivers	2,405,000	40,000
Rogue River	990,000	37,000
Coquille River	1,277,000	25,000
Siuslaw River	845,000	17,000
Coos Bay	537,000	17,000
Clackamas and Willamette Rivers	263,000	13,000
Alsea Bay and River	150,000	6,500
Yaquina Bay and River	124,000	4,200
Umpqua River	140,000	3,200
Nekanakum River	50,000	900

The salmon catch of the Columbia River alone constituted 75 per cent of the total salmon catch of the state and represented 87 per cent of its total value. The quantity taken from the Coquille River was greater than that taken from Rogue River, but the value of the latter catch was considerably greater. Almost the entire salmon product of the different rivers, excepting

the Columbia, Clackamas, and Willamette, was used in the canneries, one or more of which are located on each river, except the Alseya and the Nekanakum. The catch of the last-named rivers was delivered to canneries located near by.

Other leading species.—The second in importance of the fishery products was crawfish, but the value of the catch formed only about 1 per cent of the total value of products. In both 1908 and 1904 Oregon ranked first among the states in respect to the value of the crawfish product, Wisconsin holding second rank in both the years named. Catfish, shad, hard crabs, and sturgeon were next in importance in the order named, and each showed a substantial gain since the canvass of 1904.

TABLE 1.—OREGON—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Gill nets.		Seines.		Wheels.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	28,217,000	$1,356,000	22,849,000	$1,076,000	2,987,000	$152,000	1,355,000	$72,000	1,025,000	$57,000
Fish:										
Carp, German	30,000	300	30,000	300						
Catfish	201,000	9,000							201,000	9,000
Cultus cod	20,000	800							20,000	800
Flounders	23,000	500	5,000	100	18,000	400				
Halibut	16,000	700							16,000	700
Herring	15,000	300	9,200	200	6,000	100				
Perch, viviparous	26,000	600	1,700	(2)	24,000	500				
Salmon, blueback	403,000	20,000	7,700	400	94,000	4,100	294,000	16,000	7,500	300
Salmon, chinook	18,176,000	1,056,000	15,471,000	901,000	1,711,000	100,000	819,000	44,000	175,000	10,000
Salmon, dog or chum	905,000	7,000	895,000	6,900	10,000	100				
Salmon, silver	4,923,000	109,000	4,591,000	102,000	274,000	5,500	11,000	300	47,000	900
Salmon, steelhead	2,469,000	109,000	1,280,000	50,000	847,000	42,000	218,000	10,000	124,000	6,700
Sculpin	8,000	300							8,000	300
Shad	431,000	8,000	430,000	8,000	1,300	100				
Skilfish, or black snapper	5,000	200							5,000	200
Smelt	30,000	800	28,000	700	2,100	100				
Squetegue, or sea trout	2,000	100							2,000	100
Sturgeon	114,000	6,800	100,000	5,600	600	(2)	13,000	1,200		
All other	3,300	100							3,300	100
Crabs, hard	200,000	6,900							200,000	6,900
Crawfish	178,000	14,000							178,000	14,000
Clams, hard	[3] 700	100							[3] 700	100
Clams, soft	[4] 30,000	2,000							[4] 30,000	2,000
Oysters, market, from public areas	[5] 2,300	800							[5] 2,300	800
Oysters, market, from private areas	[6] 5,000	3,200							[6] 5,000	3,200
Oysters, seed, from public areas	[7] 1,800	200							[7] 1,800	200

[1] Includes apparatus, with catch, as follows: Pots and traps, 561,000 pounds, valued at $29,000; pound nets, 353,000 pounds, valued at $18,000; dredges, tongs, etc., 58,000 pounds, valued at $7,200; and lines, 54,000 pounds, valued at $2,200.
[2] Less than $100. [3] 100 bushels. [4] 3,700 bushels. [5] 300 bushels. [6] 700 bushels. [7] 300 bushels.

TABLE 2.—OREGON—FISHERY PRODUCTS OF COLUMBIA RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Gill nets.		Seines.		Wheels.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	21,315,000	$1,186,000	16,643,000	$931,000	2,586,000	$142,000	1,355,000	$72,000	732,000	$41,000
Fish:										
Carp, German	30,000	300	30,000	300						
Catfish	201,000	9,000							201,000	9,000
Salmon, blueback	403,000	20,000	7,700	400	94,000	4,100	294,000	16,000	7,500	300
Salmon, chinook	16,955,000	1,011,000	14,350,000	862,000	1,611,000	96,000	819,000	44,000	175,000	10,000
Salmon, dog or chum	147,000	1,800	147,000	1,800						
Salmon, silver	839,000	21,000	716,000	18,000	66,000	1,300	11,000	300	47,000	900
Salmon, steelhead	2,013,000	95,000	858,000	38,000	813,000	40,000	218,000	10,000	124,000	6,700
Shad	418,000	7,400	417,000	7,400	1,300	100				
Smelt	17,000	300	17,000	300	600	(2)				
Sturgeon	114,000	6,800	100,000	5,600	600	(2)	13,000	1,200		
Crawfish	178,000	14,000							178,000	14,000

[1] Includes apparatus, with catch, as follows: Pots and traps, 379,000 pounds, valued at $23,000; and pound nets, 353,000 pounds, valued at $18,000. [2] Less than $100.

TABLE 3.—OREGON—FISHERY PRODUCTS OF PACIFIC COAST DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Gill nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	6,902,000	$170,000	6,207,000	$144,000	401,000	$10,000	294,000	$15,000
Fish:								
Cultus cod	20,000	800					20,000	800
Flounders	23,000	500	5,000	100	18,000	400		
Halibut	16,000	700					16,000	700
Herring	15,000	300	9,200	200	6,000	100		
Perch, viviparous	26,000	600	1,700	(2)	24,000	500		
Salmon, chinook	1,221,000	45,000	1,121,000	41,000	100,000	3,900		
Salmon, dog or chum	758,000	5,200	748,000	5,200	10,000	100		
Salmon, silver	4,084,000	88,000	3,876,000	84,000	208,000	4,200		
Salmon, steelhead	456,000	14,000	422,000	13,000	34,000	1,100		
Sculpin	8,000	300					8,000	300
Sea trout	2,000	100					2,000	100
Shad	13,000	600	13,000	600				
Skilfish, or black snapper	5,000	200					5,000	200
Smelt	12,000	500	11,000	500	1,500	(2)		
All other	3,300	100					3,300	100
Crabs, hard	200,000	6,900					200,000	6,900
Clams, hard	[3] 700	100					[3] 700	100
Clams, soft or razor	[4] 30,000	2,000					[4] 30,000	2,000
Oysters, market, from public areas	[5] 2,300	800					[5] 2,300	800
Oysters, market, from private areas	[6] 5,000	3,200					[6] 5,000	3,200
Oysters, seed, from public areas	[7] 1,800	200					[7] 1,800	200

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 58,000 pounds, valued at $7,200; pots and traps, 182,000 pounds, valued at $6,000; and lines, 54,000 pounds, valued at $2,200.
[2] Less than $100. [3] 100 bushels. [4] 3,700 bushels. [5] 300 bushels. [6] 700 bushels. [7] 300 bushels.

PENNSYLVANIA.

The fisheries of Pennsylvania may be grouped in three districts, including, respectively, those of Delaware River and Bay, those of Lake Erie, and those of the Susquehanna River. The following summary presents the chief statistics of the fishing industry for the entire state in 1908:

Number of persons employed	1,250
Capital:	
Vessels and boats, including outfit	$280,000
Apparatus of capture	114,000
Shore and accessory property and cash	87,000
Value of products	513,000

Comparison with previous canvasses.—In comparing the statistics as to the products of Lake Erie for 1908 with those for previous years, allowance should be made for the results of a strike lasting seven weeks during the fall season, and for the effects of certain restrictive legislation recently enacted. In 1899 and 1890 large catches of lake herring, amounting to over 10,000,000 and 8,000,000 pounds, respectively, made the quantity taken much larger than in succeeding years. The total catch reported for the Delaware River and Bay district in 1908 shows a marked improvement over the downward movement which took place from 1897 to 1904. The principal data for earlier canvasses are shown in the following comparative summary:

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
Total:						
1908	1,237	$394,000	$280,000	$114,000	11,888,000	$513,000
1903–4	1,172	372,000	268,000	105,000	10,414,000	473,000
1897–1899	1,825	321,000	203,000	117,000	20,457,000	545,000
Delaware River and Bay district:						
1908	514	126,000	116,000	9,600	3,987,000	254,000
1904	395	72,000	63,000	10,000	1,630,000	143,000
1897	1,115	135,000	110,000	25,000	5,331,000	254,000
Susquehanna River district:						
1908	449	14,000	4,300	9,800	393,000	26,000
1904	425	8,100	2,800	5,300	416,000	24,000
1897	346	6,000	3,000	3,000	273,000	16,000
Lake Erie district:						
1908	274	255,000	160,000	95,000	7,508,000	233,000
1903	352	291,000	202,000	89,000	8,368,000	305,000
1899	364	180,000	90,000	90,000	14,853,000	276,000

Persons employed.—The statistics concerning the persons employed in the fisheries of Pennsylvania in 1908 are shown in the next tabular statement.

The only vessel engaged in transporting fish was employed on Lake Erie, and the data pertaining to it are included with those of the fishing vessels.

Of the 13 shoresmen, 11 were connected with the vessel fisheries. Thus, including shoresmen, 491 of the total number of persons reported were employed in connection with the vessel fisheries and 759 in connection with the shore and boat fisheries. The excess

of the number in the shore and boat fisheries over that reported for vessel fisheries was due entirely to the influence of the Susquehanna River district, where all fisheries were of the shore and boat class. In both the Lake Erie district and the Delaware River and Bay district, persons employed in vessel fisheries outnumbered those employed in the shore and boat fisheries.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908. Number. Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Salaries and wages. Total.	Salaries.	Wages.
Total	1,250	[1] 561	10	679	$199,000	$6,800	[2] $192,000
Vessel fisheries	480	27	10	443	177,000	6,800	170,000
Shore and boat fisheries	757	534	.....	223	19,000	.....	19,000
Shoresmen	13	.....	.....	13	3,100	.....	3,100
Delaware River and Bay district	520	76	10	434	91,000	6,800	84,000
Vessel fisheries	266	.....	10	256	79,000	6,800	72,000
Shore and boat fisheries	248	76	.....	172	10,000	.....	10,000
Shoresmen	6	.....	.....	6	1,400	.....	1,400
Lake Erie district	281	53	.....	228	108,000	.....	108,000
Vessel fisheries [3]	214	27	.....	187	97,000	.....	97,000
Shore and boat fisheries	60	26	.....	34	8,400	.....	8,400
Shoresmen	7	.....	.....	7	1,700	.....	1,700
Susquehanna River district (shore and boat fisheries)	449	432	.....	17	800	.....	800

[1] Exclusive of 30 proprietors not fishing.
[2] Includes provisions furnished to the value of $21,000.
[3] Includes one vessel engaged in transporting.

Equipment and other capital.—The following tabular statement gives the distribution of the total capital invested in the fisheries of Pennsylvania in 1908:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908. Total.	Delaware River and Bay district.	Lake Erie district.	Susquehanna River district.
Total	$481,000	$183,000	$284,000	$14,000
Vessels, including outfit	254,000	106,000	[1] 148,000	.....
Steam and motor	185,000	38,000	148,000	.....
Vessels	163,000	31,000	132,000	.....
Outfit	23,000	6,900	16,000	.....
Sail	68,000	68,000	.....	.....
Vessels	51,000	51,000	.....	.....
Outfit	17,000	17,000	.....	.....
Boats	26,000	10,000	12,000	4,300
Steam and motor	17,000	8,300	7,500	800
Sail	600	.....	600	.....
Row	5,400	1,700	400	3,300
Other	3,500	.....	3,200	200
Apparatus of capture	114,000	9,600	95,000	9,800
Vessel fisheries	73,000	3,400	70,000	.....
Shore and boat fisheries	41,000	6,200	25,000	9,800
Shore and accessory property	54,000	30,000	24,000	300
Cash	33,000	28,000	5,000	.....

[1] Includes one vessel engaged in transporting.

The statistics concerning the number and tonnage of the vessels and the number of the boats are as follows:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908. Total.	Delaware River and Bay district.	Lake Erie district.	Susquehanna River district.
Vessels:				
Number	66	27	[1] 39	.....
Tonnage	1,152	582	570	.....
Steam and motor—				
Number	47	8	39	.....
Tonnage	696	126	570	.....
Sail—				
Number	19	19	.....	.....
Tonnage	456	456	.....	.....
Boats, number	333	79	43	211
Steam and motor	40	27	9	4
Sail	6	.....	6	.....
Row	272	52	19	201
Other	15	.....	9	6

[1] Includes one vessel engaged in transporting.

The value of fishing vessels composed over one-half of the total investment. Steam vessels predominated, and steam and motor boats also largely exceeded all other boats in value. The value of apparatus of capture constituted less than a quarter of the investment. Of the value of shore and accessory property, $20,000 was credited to the shore and boat fisheries and $35,000 to the vessel fisheries. The cash capital amounted to $3,400 in the case of the shore and boat fisheries and to $29,000 in the case of the vessel fisheries. The total investment in shore and boat fisheries, therefore, was $90,000 and that in vessel fisheries $391,000.

In the Delaware River and Bay district fishing vessels represented considerably more than half of the total investment, and the value of shore and accessory property and the cash reported, in nearly equal proportions, accounted for the bulk of the remainder. The value of apparatus of capture formed only 5 per cent of the total investment. The total investment in the vessel fisheries of this district was $161,000, as compared with $23,000 in shore and boat fisheries.

In the Lake Erie district one-half of the total investment was in fishing vessels and one-third in apparatus of capture. A few sailboats were engaged in fishing on this lake, but no sailing vessels. The apparatus of capture reported for the vessel fisheries consisted almost wholly of gill nets. The total investment in the shore and boat fisheries of Pennsylvania on Lake Erie was only $53,000, while that in the vessel fisheries was $230,000.

In the Susquehanna River district, as already stated, the entire investment was in shore and boat fisheries.

The distribution of the principal kinds of apparatus of capture, by fishery districts and by class of fisheries, is shown in the next tabular statement.

KIND.	APPARATUS OF CAPTURE: 1908. Total.	Distributed by districts. Delaware River and Bay district.	Lake Erie district.	Susquehanna River district.	Distributed by class of fisheries. Vessel fisheries.	Shore and boat fisheries.
Bow nets	310	.....	.....	310	.....	310
Dip nets	82	.....	.....	82	.....	82
Eelpots	150	150	.....	.....	.....	150
Fish baskets and traps	126	.....	.....	126	.....	126
Fyke and hoop nets	551	.....	.....	551	.....	551
Gill nets	19,228	74	19,054	100	17,316	1,912
Pound and trap nets	66	.....	66	.....	.....	66
Seines	34	23	.....	11	.....	34
Spears and gigs	500	.....	.....	500	.....	500

Products, by species.—Table 1, on page 230, gives statistics of the quantity and the value of the fishery products of Pennsylvania, by species and by apparatus of capture. Oysters, blue pike, and lake herring contributed to the total value of the product 34 per cent, 19 per cent, and 18 per cent, respectively, representing in the aggregate 71 per cent of the total value. Sea bass furnished 9 per cent of the total value, while shad and whitefish each contributed 7 per cent. Thus six species are shown to account for 94 per cent of the value of products. The remaining 6 per cent was contributed by 21 species. Of the six leading species, oysters and sea bass were taken from Delaware River and Bay; blue pike, lake herring, and whitefish from Lake Erie; and shad in nearly equal quantities from the Susquehanna and the Delaware Rivers. Fish proper represented 66 per cent of the total value of products and oysters the remaining 34 per cent.

Products, by fishing grounds.—Of the total value of the fishery products for the state, the Delaware River and Bay district furnished 50 per cent, the Lake Erie district 45 per cent, and the Susquehanna River district only 5 per cent. The quantity and value of the fishery products of the Delaware River and Bay district, distributed by species and by apparatus of capture, are shown in Table 2, on page 230.

Oysters contributed 69 per cent, or more than two-thirds, of the total value of the fishery products of this district. Of the fish proper reported, sea bass, alewives, and shad were the most important as regards quantity. Sea bass and shad exceeded other species of fish in value also, representing, respectively, 56 per cent and 26 per cent of the value of all fish caught, and 17 per cent and 8 per cent of the total value of products for the district, being surpassed only by oysters; the alewife catch, however, was of comparatively little value. The sea-bass product was taken wholly with lines, and the shad and alewives were taken with gill nets and seines.

The statistics of the fishery products of the Lake Erie district are given in Table 3, on page 231.

One-half of the Lake Erie catch was composed of lake herring, but the value of this product was somewhat lower than that of the blue-pike catch, which contributed 41 per cent of the value of the Lake Erie product, as compared with a corresponding proportion of 39 per cent for lake herring. Whitefish ranked third in both quantity and value, the whitefish catch representing 16 per cent of the total value of products of this district. Practically the entire amount and value (96 per cent in each case) of the fishery product of the Lake Erie district was contributed by these three varieties of fish. Yellow perch was the only other species that represented more than 1 per cent of either the total quantity or the total value. Gill nets, which were used for securing practically the entire lake-herring catch and the larger part of the catch of both pike perch and whitefish, were by far the most important kind of apparatus of capture employed by the fisheries of this district.

Table 4, on page 231, presents, for the Susquehanna River district, statistics of the fishery products similar to those given for the other districts in Tables 2 and 3.

Shad alone represented 79 per cent of the total quantity and 73 per cent of the total value of the Susquehanna River catch, eels being the only other species of any importance. About two-thirds of the shad product was caught by dip and bow nets and the remainder by seines and gill nets.

The following tabular statement distributes the value of products, by species, for the state and for each district:

SPECIES.	VALUE OF PRODUCTS: 1908. Total.	Delaware River and Bay district.	Susquehanna River district.	Lake Erie district.
Total	$513,000	$254,000	$26,000	$233,000
Fish	338,000	79,000	26,000	233,000
Pike perch (blue pike)	96,000	.....	.....	96,000
Lake herring	90,000	.....	.....	90,000
Sea bass	44,000	44,000	.....	.....
Shad	38,000	20,000	19,000	.....
Whitefish	37,000	.....	.....	37,000
Alewives	6,400	6,400	(1)	.....
All other	26,000	8,400	7,400	10,000
Oysters	176,000	176,000	.....	.....
Market, from private areas	134,000	134,000	.....	.....
Seed, from public areas	42,000	42,000	.....	.....

[1] Less than $100.

Products, by class of fisheries.—The next tabular statement shows the distribution, by species arranged according to value, of the value of products for the state as a whole and for the two classes of fisheries.

The vessel fisheries account for 84 per cent of the value of all fishery products of the state and for 76 per cent of that of the total fish catch. Of the products of this class of fisheries, oysters were by far the most important, contributing 41 per cent of the total value; pike perch and lake herring were the most important fish products, together representing 39 per cent of the total. Among the products of the shore and boat fisheries, shad, reported exclusively by this class of

fisheries, had a value nearly as great as the combined value of all other fish.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$513,000	$433,000	$80,000
Fish	338,000	257,000	80,000
Pike perch (blue pike)	96,000	85,000	11,000
Lake herring	90,000	83,000	6,400
Sea bass	44,000	44,000	.....
Shad	38,000	.....	38,000
Whitefish	37,000	34,000	2,600
Alewives	6,400	.....	6,400
All other	26,000	10,000	16,000
Oysters	176,000	176,000	.....
Market, from private areas	134,000	134,000	.....
Seed, from public areas	42,000	42,000	.....

Statistics concerning the products of the vessel fisheries of the Delaware River and Bay district are presented in the following tabular statement:

SPECIES.	PRODUCTS OF VESSEL FISHERIES, DELAWARE RIVER AND BAY DISTRICT: 1908.[1]	
	Quantity (pounds).	Value.
Total	2,906,000	$225,000
Fish:		
Bluefish	7,500	800
Cod	50,000	800
Croaker	14,000	500
Flounders	4,700	200
Scup	11,000	300
Sea bass	860,000	44,000
Squeteague, or sea trout	12,000	200
Sturgeon	8,400	2,600
Oysters, market, from private areas	[2] 906,000	134,000
Oysters, seed, from public areas	[3] 1,032,000	42,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,938,000 pounds, valued at $176,000; lines, 959,000 pounds, valued at $47,000; and gill nets, 8,400 pounds, valued at $2,600.
[2] 129,000 bushels.
[3] 148,000 bushels.

Oysters were the principal species reported for the vessel fisheries of this district and represented 78 per cent of the value of their catch. The remaining 22 per cent of the total value was contributed by eight species of fish proper, all of which, with the exception of sturgeon, were taken with lines.

The next tabular statement gives the statistics of the products of shore and boat fisheries of the Delaware River and Bay district.

The chief products of the shore and boat fisheries of this district were, in point of value, shad and alewives, both fresh and salted. The value of these two species together constituted 90 per cent of the total value of the catch. Gill nets and seines were the principal apparatus of capture used in this class of fisheries.

Statistics as to the products of the vessel fisheries and the shore and boat fisheries of Lake Erie are presented in Table 3, on page 231. From a reference to this it will be seen that in both classes of fisheries blue pike, lake herring, and whitefish, in the order named, were the most important products as regards both quantity and value.

SPECIES.	PRODUCTS OF THE SHORE AND BOAT FISHERIES OF DELAWARE RIVER AND BAY DISTRICT: 1908.					
	Total.		Product caught by—			
			Gill nets.		Seines.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,081,000	$29,000	415,000	$10,000	665,000	$19,000
Alewives, fresh	615,000	5,300	300,000	3,000	315,000	2,300
Alewives, salted	148,000	1,100	.....	.....	148,000	1,100
Carp, German	12,000	1,000	3,500	200	8,200	800
Catfish and bullheads	7,500	500	7,000	500	500	(2)
Eels	4,200	300	.....	.....	4,200	300
Shad	281,000	20,000	100,000	6,200	181,000	13,000
Striped bass	7,200	800	5,000	500	2,200	200
Stickers, or mullet	5,500	400	.....	.....	5,500	400

[1] Includes eel pots, with catch of 4,200 pounds, valued at $300.
[2] Less than $100.

As already indicated, the Susquehanna River fisheries were all of the shore and boat class.

Products, by apparatus of capture.—The following tabular statement indicates the distribution, by apparatus of capture arranged in the order of the value of their catch, of the value of products for the different fishery districts and for the two classes of fisheries, respectively. Gill nets took products valued at 46 per cent of the total value, and these were the most important form of apparatus in the Lake Erie district, where the catch by lines and pound and trap nets contributed less than 7 per cent of the total value of products. Dredges, tongs, etc., which were used only in the Delaware River and Bay district, took products having a value equal to 69 per cent of the total for this district and 34 per cent of the total for the state. In the Susquehanna River district the largest value of products, 46 per cent of the total for the district, was reported for dip and bow nets, the use of which was confined to this district.

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.					
	Total.	Distributed by districts.			Distributed by class of fisheries.	
		Delaware River and Bay district.	Susquehanna River district.	Lake Erie district.	Vessel fisheries.	Shore and boat fisheries.
Total	$513,000	$254,000	$26,000	$233,000	$433,000	$80,000
Gill nets	235,000	13,000	3,000	219,000	210,000	25,000
Dredges, tongs, etc.	176,000	176,000	.....	.....	176,000	.....
Lines	49,000	47,000	1,000	100	47,000	1,000
Seines	22,000	18,000	3,400	.....	.....	22,000
Pound and trap nets	13,000	.....	.....	13,000	.....	13,000
Dip and bow nets	12,000	.....	12,000	.....	.....	12,000
Fish traps	5,100	.....	5,100	.....	.....	5,100
All other	1,100	300	800	.....	.....	1,100

Oysters.—The yield of oysters in 1908, which represented 34 per cent of the total value of products, was larger than that in any previous year. The product was entirely from Delaware Bay; all the market oysters were taken from private beds, and all the seed oysters from public areas.

The following tabular statement shows the changes in the quantity and value of the yield since 1880:

YEAR.	OYSTER PRODUCT.	
	Quantity (pounds).	Value.
1908	1,938,000	$176,000
1904	831,000	104,000
1897	1,862,000	144,000
1892	927,000	102,000
1880	1,249,000	131,000
1880	(1)	188,000

[1] Not reported.

Blue pike.—The catch of blue pike, which ranked first among the fish proper, was taken wholly on Lake Erie, and contributed 41 per cent to the value of the product from this district. The yield in 1908 was larger than that in any previous year since 1890 and its value greater than that reported for any previous year. The following tabular statement presents the statistics for 1890 and succeeding canvasses:

YEAR.	BLUE-PIKE PRODUCT.	
	Quantity (pounds).	Value.
1908	2,925,000	$96,000
1903	2,179,000	79,000
1899	1,523,000	45,000
1890	3,246,000	70,000

Lake herring.—The lake-herring product contributed 18 per cent of the value of all fishery products reported for the state and 39 per cent of that reported for the Lake Erie district. With the exception of a fractional percentage, the entire quantity was taken by gill nets. Of the value of the Lake Erie catch, 92 per cent was credited to vessel fisheries. The catch of this fish has decreased rapidly in quantity since 1899, in which year 10,742,000 pounds were taken. The following statement, which gives the quantity and value reported for certain earlier years, shows that the highest value was reached in 1903:

YEAR.	LAKE-HERRING PRODUCT.	
	Quantity (pounds).	Value.
1908	3,796,000	$90,000
1903	5,750,000	208,000
1899	10,742,000	134,000
1890	8,013,000	80,000

Sea bass.—This species, the value of which amounted to 9 per cent of the value of all the fishery products of the state, was, like oysters, taken only in the Delaware River and Bay district, where it contributed 17 per cent of the value of the catch. The entire quantity was taken with lines in the vessel fisheries and represented nearly 20 per cent of the value of the catch made by vessel fisheries of the Delaware River and Bay district. No sea-bass product was reported in 1904, but at previous canvasses the yields were as large as, or larger than, that of 1908, although of somewhat smaller value. The changes in the catch are indicated in the following tabular statement:

YEAR.	SEA-BASS PRODUCT.	
	Quantity (pounds).	Value.
1908	860,000	$44,000
1897	900,000	36,000
1892	902,000	38,000
1890	893,000	29,000

Shad.—This fish was taken in both the Delaware River and Bay district and the Susquehanna River district, 53 per cent of the total value for the state being credited to the former. Of the total product of fish proper, this species formed 11 per cent in the state, 73 per cent in the Susquehanna River district, and 26 per cent in the Delaware River and Bay fisheries. Seines and gill nets were the principal forms of apparatus of capture used in the shad fisheries of the Delaware River and Bay district, seines taking about two-thirds of the catch; in the Susquehanna River fisheries, though these two forms of apparatus were used, dip and bow nets were used much more extensively.

The following tabular statement shows that there has been a marked decline in the product of this species since 1890, interrupted only in 1897, when the catch was of greater weight though of less value than in 1892:

YEAR.	SHAD PRODUCT.	
	Quantity (pounds).	Value.
1908	593,000	$38,000
1904	836,000	52,000
1897	2,007,000	64,000
1892	1,996,000	110,000
1890	2,889,000	131,000
1880	560,000	28,000

Whitefish.—The value of the whitefish catch formed 7 per cent of the value of the total state product and 16 per cent of that of the Lake Erie product. The vessel fisheries of Lake Erie took, by means of gill nets, products valued at 92 per cent of the total value for whitefish. Though greater than the catch in 1903, the quantity taken in 1908 was much less than that reported in any year previous to 1903, while, as the following tabular statement shows, the value in 1908 was practically the same as that in 1880 and that in 1890:

YEAR.	WHITEFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	455,000	$37,000
1903	53,000	3,900
1899	616,000	47,000
1890	758,000	36,000
1880	975,000	35,000

TABLE 1.—PENNSYLVANIA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Gill nets.		Lines.		Seines.		Pound and trap nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	11,888,000	$513,000	7,659,000	$235,000	970,000	$49,000	722,000	$22,000	322,000	$13,000	2,215,000	$194,000
Fish:												
Alewives	767,000	6,400	300,000	3,000			467,000	3,400				
Black bass	1,000	200			1,000	200						
Bluefish	7,500	800			7,500	800						
Carp, German	71,000	2,200	44,000	800	2,000	100	8,200	800	13,000	200	4,000	300
Catfish and bullheads	26,000	1,700	7,000	500	1,000	100	500	(2)	11,000	600	7,200	500
Cod	50,000	800			50,000	800						
Croaker	14,000	500			14,000	500						
Drum, fresh-water	33,000	300	400	(2)					33,000	300		
Eels	54,000	5,000			500	(2)					53,000	5,000
Flounders	4,700	200			4,700	200						
Lake herring	3,796,000	90,000	3,781,000	89,000					15,000	500		
Ling, or eelpout	47,000	200	47,000	200								
Perch, yellow	85,000	3,400	73,000	2,900					12,000	500		
Pike and pickerel	14,000	1,600	7,500	400	5,800	1,200			600	(2)		
Pike perch (blue pike)	2,925,000	96,000	2,769,000	90,000					156,000	5,800		
Pike perch (sauger)	19,000	800	19,000	800								
Pike perch (wall-eyed pike)	12,000	1,000							12,000	1,000		
Scup	11,000	300			11,000	300						
Sea bass	860,000	44,000			860,000	44,000						
Shad	593,000	38,000	150,000	9,200			238,000	17,000			205,000	12,000
Squeteague	12,000	200			12,000	200						
Striped bass	7,200	800	5,000	500			2,200	300				
Sturgeon	16,000	3,700	8,400	2,600					7,600	1,100		
Caviar	500	500							500	500		
Suckers, or mullet	57,000	1,500	16,000	200			5,500	400	28,000	500	7,500	400
Trout, lake	700	(2)	700	(2)								
White bass	10,000	400							10,000	400		
Whitefish	455,000	37,000	432,000	35,000					23,000	1,900		
Oysters, market, from private areas	[3] 906,000	134,000									[3] 906,000	134,000
Oysters, seed, from public areas	[4] 1,032,000	42,000									[4] 1,032,000	42,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,938,000 pounds, valued at $176,000; dip nets and bow nets, 205,000 pounds, valued at $12,000 fish baskets and traps, 56,000 pounds, valued at $5,100; spears and gigs, 6,000 pounds, valued at $500; eel pots, 4,200 pounds, valued at $300; and fyke and hoop nets, 5,300 pounds, valued at $300.
[2] Less than $100.
[3] 129,000 bushels.
[4] 148,000 bushels.

TABLE 2.—PENNSYLVANIA—FISHERY PRODUCTS OF DELAWARE RIVER AND BAY DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—			
			Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,987,000	$254,000	959,000	$47,000	3,028,000	$207,000
Fish:						
Alewives, fresh	615,000	5,300			615,000	5,300
Alewives, salted	148,000	1,100			148,000	1,100
Bluefish	7,500	800	7,500	800		
Carp, German	12,000	1,000			12,000	1,000
Catfish and bullheads	7,500	500			7,500	500
Cod	50,000	800	50,000	800		
Croaker	14,000	500	14,000	500		
Eels	4,200	300			4,200	300
Flounders	4,700	200	4,700	200		
Scup	11,000	300	11,000	300		
Sea bass	860,000	44,000	860,000	44,000		
Shad	281,000	20,000			281,000	20,000
Squeteague, or weakfish	12,000	200	12,000	200		
Striped bass	7,200	800			7,200	800
Sturgeon	8,400	2,600			8,400	2,600
Suckers, or mullet	5,500	400			5,500	400
Oysters, market, from private areas	[2] 906,000	134,000			[2] 906,000	134,000
Oysters, seed, from public areas	[3] 1,032,000	42,000			[3] 1,032,000	42,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,938,000 pounds, valued at $176,000; seines, 661,000 pounds, valued at $18,000; gill nets, 424,000 pounds, valued at $13,200; and eel pots, 4,200 pounds, valued at $300.
[2] 129,000 bushels.
[3] 148,000 bushels.

TABLE 3.—PENNSYLVANIA—FISHERY PRODUCTS OF LAKE ERIE DISTRICT: 1908.

SPECIES.	AGGREGATE.		VESSEL FISHERIES.[1]		SHORE AND BOAT FISHERIES.					
					Total.		Product caught by—			
							Gill nets.[2]		Pound and trap nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	7,508,000	$233,000	6,770,000	$208,000	738,000	$25,000	416,000	$12,000	322,000	$13,000
Carp, German	53,000	800	40,000	600	13,000	200			13,000	200
Catfish and bullheads	11,000	600			11,000	600	900	100	11,000	600
Drum, fresh-water	33,000	300	400	(4)	33,000	300			33,000	300
Lake herring	3,796,000	90,000	3,533,000	83,000	263,000	6,400	248,000	5,900	15,000	500
Ling, or eelpout	47,000	200	44,000	200	2,600	(3)	2,600	(4)		
Perch, yellow	85,000	3,400	64,000	2,500	21,000	900	9,200	400	12,000	500
Pike and pickerel	8,100	500	7,500	400	600	(3)	600	(3)	600	(4)
Pike perch (blue pike)	2,925,000	96,000	2,625,000	85,000	302,000	11,000	146,000	4,800	156,000	5,800
Pike perch (sauger)	19,000	800	19,000	800						
Pike perch (wall-eyed pike)	12,000	1,000			12,000	1,000			12,000	1,000
Sturgeon	7,600	1,100			7,600	1,100			7,600	1,100
Caviar	500	500			500	500			500	500
Suckers, or mullet	44,000	700	15,000	200	28,000	500	600	(4)	28,000	500
Trout, lake	700	(4)	700	(3)						
White bass	10,000	400			10,000	400			10,000	400
Whitefish	455,000	37,000	423,000	34,000	32,000	2,600	8,500	700	23,000	1,900

[1] All the product was caught by gill nets.
[2] Includes lines used for taking catfish and bullheads.
[3] Less than $100.

TABLE 4.—PENNSYLVANIA—FISHERY PRODUCTS OF SUSQUEHANNA RIVER DISTRICT: 1908.[1]

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—			
			Lines.[2]		All other apparatus.[3]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	393,000	$26,000	59,000	$4,600	333,000	$22,000
Alewives, fresh	3,800	(4)			3,800	(4)
Black bass	1,000	200	1,000	200		
Carp, German	6,000	400	2,000	100	4,000	300
Catfish and bullheads	7,300	500	100	(4)	7,200	500
Eels	49,000	4,700	500	(4)	49,000	4,700
Pike and pickerel	5,800	1,200	5,800	1,200		
Shad	312,200	19,000	50,000	3,000	262,000	16,000
Suckers, or mullet	7,500	400			7,500	400

[1] All taken in shore and boat fisheries.
[2] Includes gill nets used for taking shad (50,000 pounds, valued at $3,000).
[3] Includes apparatus, with catch, as follows: Dip and bow nets, 205,000 pounds, valued at $12,000; fish baskets and traps, 56,000 pounds, valued at $5,100; seines, 61,000 pounds, valued at $3,400; spears and gigs, 6,000 pounds, valued at $500; and fyke and hoop nets, 5,300 pounds, valued at $300.
[4] Less than $100.

RHODE ISLAND.

The general statistics for the fisheries of Rhode Island, as reported for 1908, are as follows:

Number of persons employed	1,493
Capital:	
Vessels and boats, including outfit	$647,000
Apparatus of capture	230,000
Shore and accessory property and cash	627,000
Value of products	1,752,000

Comparison with previous canvasses.—The following tabular statement gives comparative statistics for those years for which figures are available:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	1,404	$877,000	$647,000	$230,000	44,254,000	$1,752,000
1905	1,708	715,000	508,000	207,000	23,896,000	1,547,000
1902	1,425	535,000	367,000	169,000	21,614,000	1,156,000
1898	1,340	437,000	287,000	151,000	32,854,000	955,000
1889	1,284	406,000	286,000	119,000	127,365,000	935,000
1880	1,602	392,000	297,000	95,000	88,050,000	881,000

A comparison of the returns for 1908 with those for 1905 shows an increase in the value of equipment and

in quantity and value of products, and a decrease in the number of persons employed. For the total investment in equipment, the investment in apparatus of capture, and the value of products, the statistics show gains at each canvass, as compared with the one preceding. The variations in quantity are due chiefly to the great fluctuations in the menhaden catch, which was over 112,000,000 pounds in 1889, less than 1,000,000 pounds in 1902, and nearly 18,000,000 pounds in 1908. The total value of products, however, is little affected by the catch of this low-priced fish.

Persons employed.—The distribution of the persons employed in the fisheries of the state is shown in the tabular statement given below. Almost one-half of the total number were employed in the shore and boat fisheries.

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	1,493	[1] 565	26	902	$390,000	$27,000	[2] $363,000
Vessel fisheries	629	132	23	474	225,000	23,000	202,000
Transporting vessels	49	12	.....	37	24,000	.....	24,000
Shore and boat fisheries	726	421	3	302	98,000	3,900	94,000
Shoresmen	89	.....	.....	89	43,000	.....	43,000

[1] Exclusive of 24 proprietors not fishing.
[2] Includes provisions furnished to the value of $34,000.

Equipment and other capital.—Statistics with respect to the distribution of the equipment and other capital reported for the fisheries of the state are as follows:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$1,504,000	.....	.....
Vessels, including outfit	514,000	138	2,055
Fishing	464,000	119	1,847
Steam and motor	460,000	112	1,828
Vessel	372,000	.....	.....
Outfit	88,000	.....	.....
Sail	1,700	2	19
Vessel	1,100	.....	.....
Outfit	600	.....	.....
Barges	2,400	5	.....
Transporting (steam and motor)	50,000	19	208
Vessel	41,000	.....	.....
Outfit	9,100	.....	.....
Boats	133,000	815	.....
Steam and motor	110,000	232	.....
Sail	3,300	17	.....
Row	18,000	350	.....
Other	1,400	16	.....
Apparatus of capture	220,000	.....	.....
Vessel fisheries	111,000	.....	.....
Shore and boat fisheries	119,000	.....	.....
Shore and accessory property	451,000	.....	.....
Cash	176,000	.....	.....

Of the total capital employed in the fishing industry, 43 per cent was invested in vessels and their outfits and boats and 15 per cent in apparatus of capture, while 42 per cent represented the value of shore and accessory property and the amount of cash reported.

Exclusive of shore and accessory property and cash, the investment credited to fishing and transporting vessels aggregated $626,000, of which 82 per cent represented the value of the vessels and 18 per cent the value of apparatus of capture. For the shore and boat fisheries the corresponding investment was $251,000, of which 53 per cent represented the value of boats and 47 per cent the value of apparatus of capture.

The following tabular statement shows the number of the more important kinds of apparatus of capture reported:

KIND.	APPARATUS OF CAPTURE: 1908.		
	Total.	Used in—	
		Vessel fisheries.	Shore and boat fisheries.
Beam trawls	13	10	3
Eel and lobster pots	22,840	610	22,230
Fyke nets	608	46	562
Gill nets	630	622	8
Pound and trap nets	276	93	183
Seines	61	17	44

Products, by species.—Table 1, on page 234, gives the weight and value of the fishery products of the state, distributed by species and by apparatus of capture.

The value of the shellfish products of the state, including the squid, constituted 69 per cent of the value of all fishery products. The oyster product, as measured by value, was the most important in the state. In quantity also, if figured at gross weight, the oyster catch largely exceeded the catch of all other fishery products, amounting to nearly 50,000 tons on this basis.

Products, by class of fisheries.—The products of the vessel fisheries are shown, by species and apparatus of capture, in Table 2, on page 235, and the products of the shore and boat fisheries are similarly distributed in Table 3, on page 236. The following tabular statement gives the distribution, according to species, of the total value of products reported for the state and for the vessel fisheries and the shore and boat fisheries, respectively:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,752,000	$1,198,000	$554,000
Fish	543,000	314,000	228,000
Scup	158,000	98,000	60,000
Squeteague, or weakfish	72,000	31,000	41,000
Flatfish and flounders	50,000	30,000	19,000
Menhaden	48,000	47,000	900
Cod	42,000	23,000	19,000
Butterfish	42,000	13,000	29,000
Mackerel	23,000	21,000	4,200
Swordfish	18,000	18,000	200
Tautog	17,000	3,900	13,000
Sea bass	12,000	5,900	5,900
Haddock	11,000	8,500	2,500
Eels	11,000	1,300	9,200
Mackerel, chub	9,800	5,400	4,500
Pollack	7,800	4,100	3,800
All other	21,000	3,800	17,000
Oysters	969,000	879,000	90,000
Lobster	152,000	2,200	150,000
Clams	77,000	900	76,000
Squid	6,600	900	5,700
All other	3,800	100	3,800

The vessel fisheries contributed a little more than two-thirds of the total value of products, including practically all of the value reported for the menhaden and swordfish catches and 91 per cent of the total value of the oyster product.

Products, by apparatus of capture.—In the following tabular statement the value of products is distributed according to apparatus of capture for all fisheries and for the vessel fisheries and the shore and boat fisheries separately:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,752,000	$1,198,000	$554,000
Dredges, tongs, and rakes	1,008,000	879,000	129,000
Pound nets, trap nets, and weirs	388,000	196,000	192,000
Lobster and eel pots	163,000	3,600	159,000
Lines	55,000	35,000	20,000
Seines	40,000	33,000	6,900
Gill nets	21,000	19,000	1,900
Harpoons and spears	19,000	18,000	1,400
Beam trawls	14,000	12,000	1,500
Fyke and hoop nets	5,800	1,600	4,200
Minor apparatus	39,000	900	38,000

The catch with dredges, tongs, and rakes consisted of oysters, clams, mussels, and scallops, and the value of the products taken in this way represented 58 per cent of the total value reported for all fisheries, nearly three-fourths of the total value reported for the vessel fisheries, and not quite one-fourth of the total value reported for the shore and boat fisheries. In the latter class of fisheries the catch with pound nets, trap nets, and weirs led in value, the principal species taken by these apparatus being scup, squeteague, and butterfish.

Oysters.—The total oyster yield in 1908 was 1,229,000 bushels, with a value of $969,000, of which 1,223,000 bushels, valued at $967,000, were market oysters, and 5,500 bushels, valued at $2,500, were seed oysters. All of the market oysters were from private areas, and of the seed oysters 3,000 bushels were from public areas and 2,500 bushels from private areas. Seven hundred and twenty thousand bushels, valued at $590,000, were reported as taken from Rhode Island oyster beds by Connecticut fishermen. Recent canvasses have shown a material increase in the market-oyster product of the state, as indicated by the following tabular statement:

YEAR.	MARKET-OYSTER PRODUCT.	
	Quantity (bushels).	Value.
1908	1,223,000	$967,000
1905	755,000	874,000
1902	516,000	561,000
1898	457,000	505,000
1889	203,000	272,000

Lobster.—The lobster catch formed an important part of the shellfish products of the state. Comparative figures for a series of years, as given in the following tabular statement, show a general increase in the quantity and value of the lobster product:

YEAR.	LOBSTER PRODUCT.	
	Quantity (pounds).	Value.
1908	1,425,000	$152,000
1905	530,000	64,000
1902	397,000	39,000
1898	578,000	43,000
1889	456,000	22,000
1880	423,000	16,000

The great increase in the lobster product during recent years, and especially since 1905, is due largely to the work of the Rhode Island Commission of Inland Fisheries, which, as a result of numerous experiments, has devised a method of rearing young lobsters until they become able to care for themselves, and has thus made it possible to increase greatly the number of lobsters inhabiting the waters of the state.

Scup.—This was the leading fish in value, representing 9 per cent of the value of all fishery products and 29 per cent of the value of the catch of fish proper.

The catch of scup for different years has been as follows:

YEAR.	SCUP PRODUCT.	
	Quantity (pounds).	Value.
1908	4,616,000	$158,000
1905	5,540,000	138,000
1902	6,833,000	161,000
1898	6,390,000	76,000
1889	6,064,000	92,000

The figures show a decrease in quantity together with an increase in value since 1905, and a large increase in average value since 1898.

Squeteague.—Of the fish proper, squeteague ranked second with respect to the value of the catch in 1908. The statistics for the various canvasses since 1880 are as follows:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	2,427,000	$72,000
1905	3,223,000	86,000
1902	3,158,000	76,000
1898	3,126,000	64,000
1889	406,000	17,000
1880	326,000	(1)

[1] Not reported separately.

The largest catch in respect to both quantity and value was reported in 1905. The decrease in the catch of this species shown in 1908 has been attributed to the fact that, just as the squeteague were beginning to run, target practice took place at Fort Greble, near the mouth of Narragansett Bay. The firing of the heavy guns is believed to have frightened the fish away, although it has not been positively decided that firing actually affects the run.

Flatfish and flounders.—These are important food fishes and the total value of the catch shows an increase for each year, as indicated by the following tabular statement, although the quantity has fluctuated:

YEAR.	FLATFISH AND FLOUNDER PRODUCT.	
	Quantity (pounds).	Value.
1908	1,891,000	$50,000
1905	1,143,000	35,000
1902	1,135,000	28,000
1898	1,710,000	28,000
1889	530,000	12,000
1880	352,000	(1)

[1] Not reported separately.

Menhaden.—Owing to the irregular appearance of this fish in great numbers in coastal waters and the adverse weather conditions, there is great variation in the catch for different years, as the tabular statement in the next column shows.

YEAR.	MENHADEN PRODUCT.	
	Quantity (pounds).	Value.
1908	17,942,000	$48,000
1905	1,026,000	3,000
1902	471,000	1,200
1898	3,140,000	7,600
1889	112,580,000	281,000
1880	68,694,000	222,000

The catch in 1908 shows a heavy increase over that in 1898 and subsequent years, although it did not reach the proportions attained in 1889 and 1880. Practically all of the catch is consumed in the oil and fertilizer industries. The average values are comparatively steady, ranging from a minimum of $4.84 per ton of 2,000 pounds for 1898 to a maximum of $6.46 in 1880, the mean of the averages being $5.42 per ton, or substantially the same as the average for 1908.

TABLE 1.—RHODE ISLAND—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound nets, traps, and weirs.		Lines.		Seines.		Gill nets.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	44,254,000	$1,752,000	19,406,000	$388,000	1,828,000	$55,000	10,648,000	$40,000	593,000	$21,000	241,000	$5,800	11,538,000	$1,242,000
Fish:														
Alewives	288,000	4,600	48,000	700			241,000	3,900						
Bluefish	40,000	3,700	28,000	2,500	5,000	500	1,100	100	6,500	700				
Bullheads	2,000	100					1,000	(2)			1,000	(2)		
Butterfish	1,112,000	42,000	1,101,000	42,000			7,000	200	4,000	100				
Chogset, or cunner	5,000	300					1,000	100			4,000	200		
Cod	1,497,000	42,000	514,000	14,000	983,000	28,000								
Eels	149,000	11,000	36,000	2,300			1,000	100					113,000	8,200
Flatfish and flounders	1,801,000	50,000	1,050,000	27,000	76,000	2,200	34,000	900			235,000	5,500	406,000	14,000
Haddock	415,000	11,000	61,000	1,700	314,000	7,600			40,000	1,800				
Hake	2,300	100	1,500	100	500	(2)								
Herring	214,000	1,900	204,000	1,900			10,000	(2)						
Kingfish	1,000	100	1,000	100										
Mackerel	537,000	25,000	116,000	5,200	70,000	2,700	16,000	1,100	334,000	16,000				
Mackerel, chub	379,000	9,800	112,000	4,100	7,000	200	260,000	5,500						
Menhaden	17,942,000	48,000	7,777,000	22,000			9,989,000	25,000	175,000	1,000				
Perch, white	15,000	900					15,000	900						
Pickerel	600	100									600	100		
Pollack	266,000	7,800	94,000	2,500	172,000	5,400								
Scup	4,616,000	158,000	4,616,000	158,000										
Sea bass	197,000	12,000	184,000	11,000	13,000	1,200								
Shad	4,500	400	1,200	200			500	100	2,800	200				
Silver hake, or whiting	534,000	3,600	534,000	3,600										
Smelt	1,200	100	1,200	100										
Squeteague, or weakfish	2,427,000	72,000	2,326,000	69,000	14,000	500	62,000	1,400	26,000	900				
Striped bass	34,000	4,700	30,000	4,200	1,500	200	1,000	200	1,500	100				
Swordfish	308,000	18,000											308,000	18,000
Tautog	458,000	17,000	272,000	9,000	171,000	6,900	9,500	300	2,500	100			2,500	200
All other	6,200	100	4,800	(2)	1,500	(2)								
Crabs, hard	146,000	2,900											146,000	2,900
Lobster	1,425,000	152,000											1,425,000	152,000
Clams, hard (quahaugs)	162,000	39,000											162,000	39,000
Clams, soft	275,000	38,000											275,000	38,000
Mussels	3,500	100											3,500	100
Oysters, market from private areas	[3] 8,564,000	967,000											[3] 8,564,000	967,000
Oysters, seed, from public areas	[4] 21,000	1,500											[4] 21,000	1,500
Oysters, seed, from private areas	[5] 18,000	1,000											[5] 18,000	1,000
Periwinkles	[6] 1,500	200											[6] 1,500	200
Scallops	[7] 4,000	600											[7] 4,000	600
Squid	292,000	6,600	292,000	6,600										

[1] Includes apparatus, with catch, as follows: Dredges, tongs, and rakes, 8,767,000 pounds, valued at $1,008,000; eel and lobster pots, 1,670,000 pounds, valued at $163,000; harpoons and spears, 325,000 pounds, valued at $19,000; beam trawls, 496,000 pounds, valued at $14,000; and minor apparatus, 282,000 pounds, valued at $39,000.
[2] Less than $100. [3] 1,223,000 bushels. [4] 3,000 bushels. [5] 2,500 bushels. [6] 100 bushels. [7] 500 gallons.

TABLE 2.—RHODE ISLAND—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound nets, trap nets, and weirs.		Lines.		Seines.		Gill nets.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	33,903,000	$1,198,000	13,111,000	$196,000	1,227,000	$35,000	10,328,000	$33,000	557,000	$19,000	63,000	$1,600	8,615,000	$914,000
Fish:														
Alewives	32,000	500	32,000	500										
Bluefish	18,000	1,800	15,000	1,400	3,200	300	600	100						
Butterfish	361,000	13,000	357,000	13,000					4,000	100				
Chogset, or cunner	3,000	100									3,000	100		
Cod	812,000	23,000	95,000	3,000	718,000	20,000								
Eels	14,000	1,300											14,000	1,300
Flatfish and flounders	1,179,000	30,000	616,000	15,000	50,000	1,400	20,000	400			60,000	1,500	423,000	12,000
Haddock	322,000	8,500			282,000	6,700			40,000	1,800				
Herring	46,000	600	46,000	600										
Mackerel	438,000	21,000	51,000	2,400	36,000	1,400	16,000	1,100	334,000	16,000				
Mackerel, chub	255,000	5,400					255,000	5,400						
Menhaden	17,753,000	47,000	7,589,000	21,000			9,989,000	25,000	175,000	1,000				
Pollack	134,000	4,100	29,000	1,000	104,000	3,100								
Scup	2,908,000	98,000	2,908,000	98,000										
Sea bass	96,000	5,900	89,000	5,200	7,300	700								
Squeteague, or weakfish	1,078,000	31,000	1,023,000	30,000	4,600	200	48,000	1,000	3,000	100				
Striped bass	1,400	200	1,400	200										
Swordfish	365,000	18,000											365,000	18,000
Tautog	123,000	3,900	102,000	3,200	21,000	800								
Whiting	105,000	700	105,000	700										
All other	1,500	100			500	(2)			1,000	100				
Crabs, hard	4,000	100											4,000	100
Lobster	18,000	2,200											18,000	2,200
Clams, hard (quahaugs)	[3] 1,300	300											[3] 1,300	300
Clams, soft	[4] 4,800	600											[4] 4,800	600
Oysters, market, from private areas	[5] 7,814,000	878,000											[5] 7,814,000	878,000
Oysters, seed, from public areas	[6] 2,800	200											[6] 2,800	200
Oysters, seed, from private areas	[7] 18,000	1,000											[7] 18,000	1,000
Squid	53,000	900	53,000	900										

[1] Includes apparatus, with catch, as follows: Dredges, tongs, and rakes, 7,835,000 pounds, valued at $879,000; harpoons and spears, 305,000 pounds, valued at $18,000; beam trawls, 433,000 pounds, valued at $12,000; eel and lobster pots, 37,000 pounds, valued at $3,600; and minor apparatus, 6,100 pounds, valued at $900.
[2] Less than $100. [3] 200 bushels. [4] 600 bushels. [5] 1,116,000 bushels. [6] 400 bushels. [7] 2,500 bushels

TABLE 3.—RHODE ISLAND—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound nets, trap nets, and weirs.		Lines.		Seines.		Fyke and hoop nets.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,351,000	$554,000	6,295,000	$192,000	601,000	$20,000	320,000	$6,900	178,000	$4,200	35,000	$1,900	2,922,000	$329,000
Fish:														
Alewives	256,000	4,100	15,000	200			241,000	3,900						
Bluefish	22,000	1,900	13,000	1,100	1,800	200	500	(2)			6,500	700		
Bullheads	2,000	100					1,000	(2)	1,000	(2)				
Butterfish	751,000	29,000	744,000	29,000			7,000	200						
Chogset, or cunner	2,000	200					1,000	100	1,000	100				
Cod	684,000	19,000	419,000	11,000	265,000	7,400								
Eels	135,000	9,200	36,000	2,300			1,000	100					98,000	6,800
Flatfish and flounders	712,000	19,000	434,000	12,000	26,000	900	14,000	400	175,000	4,000			63,000	1,500
Haddock	93,000	2,500	61,000	1,700	32,000	800								
Hake	1,800	100	1,800	100										
Herring	169,000	1,300	159,000	1,300			10,000	(2)						
Kingfish	1,000	100	1,000	100										
Mackerel	99,000	4,200	65,000	2,800	33,000	1,400								
Mackerel, chub	124,000	4,500	112,000	4,100	7,000	200	5,000	200						
Menhaden	189,000	900	188,000	900							400	(2)		
Perch, white	15,000	900					15,000	900						
Pickerel	600	100							600	100				
Pollack	132,000	3,800	65,000	1,500	68,000	2,300								
Scup	1,708,000	60,000	1,708,000	60,000										
Sea bass	100,000	5,900	95,000	5,300	5,000	500								
Shad	3,500	400	1,200	200			300	100			1,800	200		
Silver hake, or whiting	430,000	3,000	430,000	3,000										
Smelt	1,200	100	1,200	100										
Squeteague, or weakfish	1,349,000	41,000	1,303,000	39,000	9,200	400	14,000	400			22,000	800		
Striped bass	32,000	4,600	28,000	4,000	1,500	200	1,000	200			1,500	100		
Swordfish	2,800	200											2,800	200
Tautog	335,000	13,000	170,000	5,800	150,000	6,200	9,500	300			2,500	100	2,500	200
All other	6,200	100	4,800	(2)	1,500	(2)								
Crabs, hard	142,000	2,800											142,000	2,800
Lobster	1,406,000	150,000											1,406,000	150,000
Clams, hard (quahaugs)	[3] 161,000	39,000											[3] 161,000	39,000
Clams, soft	[4] 271,000	37,000											[4] 271,000	37,000
Mussels	[5] 3,500	100											[5] 3,500	100
Oysters, market, from private areas	[6] 749,000	89,000											[6] 749,000	89,000
Oysters, seed, from public areas	[7] 18,000	1,300											[7] 18,000	1,300
Periwinkles	[8] 1,500	200											[8] 1,500	200
Scallops	[8] 4,000	600											[8] 4,000	600
Squid	240,000	5,700	240,000	5,700										

[1] Includes apparatus, with catch, as follows: Eel and lobster pots, 1,633,000 pounds, valued at $159,000; dredges, tongs, and rakes, 922,000 pounds, valued at $129,000; beam trawls, 63,000 pounds, valued at $1,500; harpoons and spears, 20,000 pounds, valued at $1,400; and minor apparatus, 274,000 pounds, valued at $38,000.
[2] Less than $100. [3] 20,000 bushels. [4] 27,000 bushels. [5] 400 bushels. [6] 107,000 bushels. [7] 2,000 bushels. [8] 100 bushels. [9] 500 gallons.

SOUTH CAROLINA.

The value of the fishery products of South Carolina in 1908 was less than the value reported for any other South Atlantic state. Oysters contributed nearly half of the total value, while shad was the most valuable species of fish proper. A canning industry of considerable extent located at Charleston disposed of a large part of the oyster product, and of small quantities of mullet, shrimp, and clams.

The following statement presents a summary of the statistics of the fishing industry for 1908:

Number of persons employed	2,559
Capital:	
Vessels and boats, including outfit	$92,000
Apparatus of capture	16,000
Shore and accessory property and cash	5,400
Value of products	288,000

Comparison with previous canvasses.—From the tabular statement given below, which presents comparative statistics for the years for which canvasses of the South Carolina fisheries have been made, it will be seen that the canvass of 1887 showed a decrease in both quantity and value of products, as compared with the preceding canvass, but that each subsequent canvass has shown an increase in these items. Increases in the number of persons employed and in the capital invested in equipment, which took place between 1880 and 1890, were followed by decreases in 1897, but increases were reported in 1902 and 1908, although the number of persons employed in 1908 was less than the number employed in 1890.

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	2,530	$109,000	$92,000	$16,000	14,104,000	$288,000
1902	2,178	82,000	62,000	19,000	8,174,000	263,000
1897	1,934	80,000	50,000	31,000	5,280,000	210,000
1890	2,577	83,000	61,000	22,000	4,945,000	203,000
1887[1]	1,255	59,000	46,000	13,000	4,076,000	158,000
1880	964	51,000	(2)	(2)	6,143,000	213,000

[1] Does not include fisheries above tidewater. [2] Not reported separately.

Persons employed.—The following tabular statement gives statistics as to the persons employed in 1908:

CLASS.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	2,559	[1] 1,634	925	[2] $85,000
Vessel fisheries	326	46	280	38,000
Transporting vessels	16	2	14	2,100
Shore and boat fisheries	2,188	1,586	602	42,000
Shoresmen	29	.....	29	2,600

[1] Exclusive of 47 proprietors not fishing.
[2] Includes provisions furnished to the value of $25.

All of the shoresmen were employed in shore and boat fisheries. The independent fishermen in the shore and boat fisheries largely outnumbered those employing wage-earners. The low average amount of wages paid indicates that a large number of the wage-earners were employed for only a part of the time.

Equipment and other capital.—The following tabular statement gives the value of the equipment and the amount of other capital employed, the number and tonnage of vessels, and the number of boats employed in the fisheries of the state:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$114,000	.....	.....
Vessels, including outfit	50,000	108	1,079
Fishing	43,000	102	1,026
Steam and motor	8,600	8	78
Vessels	8,100	.....	.....
Outfit	400	.....	.....
Sail	33,000	94	948
Vessels	33,000	.....	.....
Outfit	1,000	.....	.....
Transporting	7,700	6	53
Steam and motor	6,200	3	24
Vessels	5,000	.....	.....
Outfit	1,200	.....	.....
Sail	1,400	3	29
Boats	42,000	1,719	.....
Steam and motor	5,100	17	.....
Sail	23,000	440	.....
Row	12,000	1,256	.....
Other	2,000	6	.....
Apparatus of capture	16,000	.....	.....
Vessel fisheries	800	.....	.....
Shore and boat fisheries	15,000	.....	.....
Shore and accessory property	3,400	.....	.....
Cash	2,000	.....	.....

All the cash capital and shore and accessory property pertained to shore and boat fisheries. The total investment was therefore distributed as follows: In shore and boat fisheries, $63,000; in vessel fisheries, $44,000; and in transporting vessels, $7,700.

The investment in fishing vessels and their outfits and that in boats were substantially the same. Together they represented nearly three-fourths of the total capital. Of the investment in apparatus of capture, only a small portion pertained to the vessel fisheries. The numbers of the more important kinds of apparatus reported, all of which with the exception of one seine were employed in the shore and boat fisheries, were as follows:

Bow nets	12
Cast nets	281
Dip nets	20
Gill nets	269
Harpoons, spears, etc	26
Seines	27
Shrimp nets	92

Products, by species.—Table 1, on page 240, gives the fishery products of the state, by species and by apparatus of capture. Though a large number of species are represented, oysters contributed 78 per cent of the total weight and 48 per cent of the total value. The value of the catch of fish proper constituted 43 per cent of the total value of products. Shad was

the leading species of fish proper, and represented one-third of the value of fish reported and 14 per cent of the value of all products.

Products, by class of fisheries.—The following tabular statement shows the distribution of the value of products, according to species, for the state and for each class of fisheries:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$288,000	$68,000	$220,000
Fish	123,000	22,000	101,000
Shad	41,000	.....	41,000
Sea bass	22,000	17,000	4,400
Mullet	19,000	2,000	17,000
Whiting	17,000	200	17,000
Squeteague	8,700	400	8,300
All other	15,000	1,800	13,000
Oysters	137,000	46,000	90,000
Shrimp and prawn	19,000	.....	19,000
Clams, hard	6,300	.....	6,300
All other	3,400	.....	3,400

Statistics of the products of the vessel fisheries of the state, by species and by apparatus of capture, are given in Table 2, on page 240. The value of the products reported for these fisheries formed 24 per cent of the value of all products. Oysters contributed 68 per cent of the value of the vessel fishery products, and the bulk of the fish catch consisted of sea bass.

Statistics of the products of the shore and boat fisheries of the state, by species and apparatus of capture, are given in Table 3, on page 241. This class of fisheries contributed 76 per cent of the value of all fishery products, but not quite so large a percentage of the total quantity. The value of oysters represented 41 per cent of the value of the shore and boat product, and that of fish proper 46 per cent. All crustaceans and mollusks, other than oysters, were taken in the shore and boat fisheries. Shad was the leading species of fish, and its value formed considerably over one-third of the value of the catch of fish proper. The mullet product and the whiting product were practically equal in value.

Products, by apparatus of capture.—The following tabular statement shows the distribution of the value of products, according to apparatus of capture used, for the state and for each class of fisheries:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$288,000	$68,000	$220,000
Dredges, tongs, etc.	142,000	46,000	96,000
Lines	59,000	18,000	41,000
Gill nets	43,000	.....	43,000
Cast nets	19,000	.....	19,000
Seines	16,000	3,300	13,000
All other	8,200	.....	8,200

Dredges, tongs, etc., were used in securing the oyster product and most of the unimportant clam product. To this form of apparatus 78 per cent of the total quantity and 50 per cent of the total value of products are credited.

The value of the products taken by lines formed 20 per cent of the total value of fishery products in the state. Sea bass and whiting, the most important species caught by lines, together contributed 65 per cent of the total value of the line catch. Over two-thirds of the value of the line catch was reported from the shore and boat fisheries. In this class of fisheries lines took products valued at 19 per cent of the total value; and in vessel fisheries, where the line catch consisted mostly of sea bass, they took products valued at 28 per cent of the total value.

Gill nets ranked third in value of catch, contributing 15 per cent of the value of the total fishery product. They were used only in the shore and boat fisheries; the value of the products taken by these nets was slightly greater than the value of the catch by lines in this class of fisheries, the proportions which the values of the two catches represented of the total value of the shore and boat product being 20 per cent and 19 per cent, respectively. Shad contributed 92 per cent of the value of the gill-net catch.

The catch by cast nets supplied 7 per cent of the value of the state product. Their use was confined to the shore and boat fisheries, the catch with this class of apparatus, which consisted of shrimp, prawn, and mullet, contributing 9 per cent of the total value of products reported for these fisheries.

The value of the product taken by means of seines represented 6 per cent of the value of the state product. Eighty-five per cent of the seine catch in quantity consisted of mullet, and was taken chiefly in the shore and boat fisheries.

Oysters.—All of the oysters reported were market oysters, and the bulk of the product was from public areas, the quantity taken from private areas forming slightly less than 6 per cent of the total. The greater part of the oyster product was used by the canneries. Prices were low in 1908, the average being less than 9 cents per bushel, while some fishermen received as little as 4 cents.

The increase in the yield of oysters has been steady and rapid since 1887, and is largely accountable for the increase shown by the total fishery product of the state since that year.

Though ranking among the leading fishery products of the state in 1880, oysters did not outrank all other kinds of products until 1897, and the canvass of 1902 was the first in which the quantity of the yield of oysters exceeded that of all other species combined. The quantity of the product in 1908 was more than two and one-fourth times that in 1902.

YEAR.	OYSTER PRODUCT.		
	Quantity (bushels).	Value.	
		Amount.	Average per bushel (cents).
1908	1,563,000	$137,000	9
1902	690,000	118,000	17
1897	215,000	45,000	21
1890	63,000	23,000	37
1887	38,000	19,000	50
1880	50,000	20,000	40

Shad.—Shad ranked second in importance, contributing 14 per cent of the value of the total yield and a third of that of the catch of fish proper. The entire product was taken in the shore and boat fisheries, and its value composed 19 per cent of the value of the total catch of such fisheries. These fish were caught almost entirely with gill nets. The fluctuations in the quantity and value of the catch for a number of years are shown in the following tabular statement:

YEAR.	SHAD PRODUCT.	
	Quantity (pounds).	Value.
1908	464,000	$41,000
1902	434,000	21,000
1897	506,000	28,000
1890	563,000	41,000
1887	366,000	25,000
1880	208,000	12,000

Sea bass.—The catch of sea bass was somewhat larger in quantity than that of shad, but its value was only a little over half as great. Though second in importance among the fish proper, sea bass furnished but 8 per cent of the value of all products of the South Carolina fisheries. The value of the sea bass taken in the vessel fisheries, however, constituted 25 per cent of the total value of products and 77 per cent of the value of the fish proper reported for such fisheries. The bulk of the product was taken in the vessel fisheries with lines. The following tabular statement gives statistics of the sea-bass product for those years for which figures are available:

YEAR.	SEA-BASS PRODUCT.	
	Quantity (pounds).	Value.
1908	491,000	$22,000
1902	710,000	27,000
1897	632,000	26,000
1890	826,000	26,000
1887	889,000	29,000

Mullet.—Mullet represented 7 per cent of the value of the total fishery product of the state. Nearly 90 per cent of the value of the catch was reported for the shore and boat fisheries, and over two-thirds of the value represented product taken with seines. Of the total product, nearly a sixth was salted. The product for 1908 shows a large increase over that of former years, as is indicated by the following tabular statement:

YEAR.	MULLET PRODUCT.	
	Quantity (pounds).	Value.
1908	664,000	$19,000
1902	139,000	3,300
1897	56,000	1,100
1890	388,000	9,400
1887	300,000	10,000
1880	232,000	7,200

Whiting.—The catch of this species had a value equal to 6 per cent of the value of the total state product. Though in quantity the catch of whiting was less than half as great as that of mullet, in value it ranked little below the latter, as a result of the higher price paid for whiting on the market. This fish was taken almost wholly in the shore and boat fisheries and with lines. The whiting catch in 1908 was considerably less than in former years, as is indicated by the following tabular statement:

YEAR.	WHITING PRODUCT.	
	Quantity (pounds).	Value.
1908	274,000	$17,000
1902	606,000	30,000
1897	638,000	28,000
1890	521,000	21,000
1887	618,000	19,000

TABLE 1.—SOUTH CAROLINA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Lines.		Gill nets.		Cast nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	14,104,000	$288,000	1,388,000	$59,000	566,000	$43,000	404,000	$19,000	567,000	$16,000	11,180,000	$151,000
Fish:												
Bluefish	7,400	300	7,400	300								
Bream	11,000	300	6,000	200							5,000	200
Catfish	20,000	400	19,000	400	500	(2)						
Croaker	85,000	2,800	82,000	2,700	500	(2)			2,500	100		
Drum (salt-water), or channel bass	109,000	2,500	107,000	2,400	1,000	(2)			700	(2)		
Flounders	4,700	200	100	(2)	700	(2)					3,900	200
Grouper	40,000	1,000	40,000	1,000								
Hickory shad	3,100	300			2,900	300					200	(2)
Mullet	664,000	19,000	1,600	100	81,000	2,300	97,000	3,800	484,000	13,000		
Pompano	4,200	400	4,200	400								
Red snapper	12,000	400	12,000	400								
Sailor's choice	34,000	1,000	33,000	1,000					700	(2)		
Sea bass	491,000	22,000	483,000	21,000					8,100	400		
Shad	464,000	41,000			449,000	40,000					15,000	1,200
Shark	72,000	1,400	72,000	1,400								
Sheepshead	20,000	900	19,000	900	200	(2)			300	(2)		
Spot	66,000	1,800	28,000	800	22,000	700			16,000	300		
Squeteague	183,000	8,700	152,000	7,300	6,400	300			9,400	600	15,000	600
Striped bass	5,000	300	2,000	100	500	100			500	100	2,000	100
Whiting	274,000	17,000	267,000	17,000	600	(2)			6,000	300		
Yellowtail	17,000	600	15,000	500					2,500	100		
All other	2,200	100	2,200	100								
Crabs, hard	33,000	900	33,000	900								
Shrimp and prawn	452,000	19,000					306,000	15,000	34,000	300	111,000	3,700
Terrapin	12,000	2,400							1,800	400	10,000	1,900
Clams, hard	[3]76,000	6,300									[3]76,000	6,300
Oysters, market, from public areas	[4]10,331,000	129,000									[4]10,331,000	129,000
Oysters, market, from private areas	[5]610,000	8,000									[5]610,000	8,000
Alligator hides	[6]100	(2)									[6]100	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 11,014,000 pounds, valued at $143,000; shrimp nets, 111,000 pounds, valued at $3,700; bow nets, 15,000 pounds, valued at $1,200; dip nets, 22,000 pounds, valued at $800; harpoons, spears, etc., 3,900 pounds, valued at $200; and minor apparatus, 14,000 pounds, valued at $2,300.
[2] Less than $100. [3] 9,500 bushels. [4] 1,476,000 bushels. [5] 87,000 bushels. [6] 25 hides.

TABLE 2.—SOUTH CAROLINA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Dredges, tongs, etc.		Lines.		Seines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	4,329,000	$68,000	3,820,000	$46,000	435,000	$19,000	74,000	$3,300
Fish:								
Croaker	2,000	100					2,000	100
Grouper	40,000	1,000			40,000	1,000		
Mullet	50,000	2,000					50,000	2,000
Red snapper	12,000	400			12,000	400		
Sea bass	385,000	17,000			380,000	17,000	5,000	200
Spot	6,000	200					6,000	200
Squeteague	5,000	400					5,000	400
Whiting	4,000	200					4,000	200
Yellowtail	2,000	100					2,000	100
All other	2,200	100			2,200	100		
Oysters, market, from public areas	[1]3,705,000	45,000	3,705,000	45,000				
Oysters, market, from private areas	[2]115,000	1,100	115,000	1,100				

[1] 529,000 bushels. [2] 16,000 bushels.

TABLE 3.—SOUTH CAROLINA—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Gill nets.		Lines.		Cast nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	9,776,000	$220,000	566,000	$43,000	953,000	$41,000	404,000	$19,000	493,000	$13,000	7,360,000	$104,000
Fish:												
Bluefish	7,400	300			7,400	300						
Bream	11,000	300			6,000	200					5,000	200
Catfish	20,000	400	500	(2)	19,000	400						
Channel bass	25,000	800	500	(2)	24,000	700			400	(2)		
Croaker	83,000	2,700	500	(2)	82,000	2,700			500	(2)		
Drum, salt-water	83,000	1,700	500	(2)	82,000	1,700			300	(2)		
Flounders	4,700	200	700	(2)	100	(2)					3,900	200
Hickory shad	3,100	300	2,900	300							200	(2)
Mullet	525,000	14,000	76,000	2,100	1,000	100	97,000	3,800	350,000	8,200		
Mullet, salted	89,000	3,100	5,000	200					84,000	2,900		
Pompano	4,200	400			4,200	400						
Sailor's choice	34,000	1,000			33,000	1,000			700	(2)		
Sea bass	106,000	4,400			103,000	4,200			3,100	200		
Shad	464,000	41,000	449,000	40,000							15,000	1,200
Shark	72,000	1,400			72,000	1,400						
Sheepshead	20,000	900	200	(2)	19,000	900			300	(2)		
Spot	60,000	1,600	22,000	700	28,000	800			10,000	100		
Squeteague	178,000	8,300	6,400	300	152,000	7,300			4,400	200	15,000	600
Striped bass	5,000	300	500	100	2,000	100			500	100	2,000	100
Whiting	270,000	17,000	600	(2)	267,000	17,000			2,000	100		
Yellowtail	15,000	500			15,000	500			500	(2)		
Crabs, hard	33,000	900			33,000	900						
Shrimp and prawn	452,000	19,000					306,000	15,000	34,000	300	111,000	3,700
Terrapin	12,000	2,400							1,800	400	10,000	1,900
Clams, hard	[3]76,000	6,300									[3]76,000	6,300
Oysters, market, from public areas	[4]6,626,000	83,000									[4]6,626,000	83,000
Oysters, market, from private areas	[5]496,000	6,900									[5]496,000	6,900
Alligator hides	[6]100	(2)									[6]100	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 7,194,000 pounds, valued at $96,000; shrimp nets, 111,000 pounds, valued at $3,700; bow nets, 15,000 pounds, valued at $1,200; dip nets, 22,000 pounds, valued at $800; harpoons, spears, etc., 3,900 pounds, valued at $200; and minor apparatus, 14,000 pounds, valued at $2,300.
[2] Less than $100. [3] 9,500 bushels. [4] 947,000 bushels. [5] 71,000 bushels. [6] 25 hides.

SOUTH DAKOTA.

The commercial fisheries of South Dakota, which were never very extensive, showed a decided decline at the canvass of 1908. Possibly as a result of the stringent laws which during the past few years have restricted fishing without a permit in the inland waters to that with hook and line, the figures shown are smaller than those for any previous year for which statistics are obtainable. The industry was pursued principally on the Missouri River, while by permit and under the supervision of the game warden, fish were taken from Lake Kampeska and the Dakota River. The principal statistics concerning the fishing industry of the state are as follows:

Number of persons employed	33
Capital:	
Boats	$400
Apparatus of capture	500
Shore and accessory property	100
Value of products	4,200

Of the 33 persons engaged in fishing, 29 were proprietors and independent fishermen and 4 were wage-earners, the latter receiving the sum of $300 for their services. In 1899 the number of fishermen reported was 72 and in 1894 the number was 121.

The statistics as to equipment and other capital are given in the following tabular statement:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.	
	Number.	Value.
Total		$1,000
Boats	27	400
Motor	1	100
Row	26	300
Apparatus of capture		500
Fyke and hoop nets	49	
Pound nets	2	
Seines	2	
Wooden traps	27	
Shore and accessory property		100

In 1899 the investment in boats, as reported by the Bureau of Fisheries, was $600 and the investment in apparatus of capture $800. Thus there were decreases in investment between 1899 and 1908 amounting to 33 per cent in the case of boats and 38 per cent in the case of apparatus of capture, these decreases being in keeping with the reduction of over one-half in the number of persons employed.

In 1899 the fishery products of the state were reported as amounting to 136,000 pounds, valued at $6,900. The decrease in value of products shown in

1908, as compared with 1899, was almost 40 per cent. In 1894, the only other year for which statistics of the fishery products of this state are available, the catch amounted to 417,000 pounds, valued at $13,000. The larger part of the catch in each of these former years was taken from the Missouri, Dakota, Vermilion, and Big Sioux Rivers.

The products of the state in 1908 are shown, by species and by apparatus of capture, in the following table. The catch reported with seines and pound nets was confined to Lake Kampeska and the Dakota River, where such fishing was carried on under the supervision of the game warden.

SOUTH DAKOTA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Seines.		Fyke and hoop nets.		Lines.		Willow traps.		Pound nets.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	70,000	$4,200	36,000	$1,600	12,000	$1,200	11,000	$1,000	4,400	$400	5,500	$100
Catfish	20,000	2,000	.....	.....	11,000	1,100	6,700	700	2,800	300	.....	.....
Buffalo fish	32,000	1,200	25,000	1,000	600	(1)	1,000	100	600	(1)	5,000	100
Carp, German	12,000	700	9,000	500	1,100	100	1,300	100	1,000	100	.....	.....
Sturgeon	1,800	100	.....	.....	.....	.....	1,800	100	.....	.....	.....	.....
All other	3,200	100	2,500	(1)	.....	.....	200	100	.....	.....	500	(1)

[1] Less than $100.

TENNESSEE.

The fisheries of Tennessee in 1908 were of the shore and boat class only, and were conducted on the Mississippi River and its tributary waters, comprising chiefly Reelfoot Lake, Open Lake, and Hatchee River; and in the Cumberland and Tennessee Rivers. In this report the fisheries of the last two rivers are considered apart from the others. A summary of the statistics for Tennessee for 1908 is given in the following tabular statement:

Number of persons employed	427
Capital:	
Boats	$9,400
Apparatus of capture	27,000
Shore and accessory property and cash	13,000
Value of products	112,000

Comparison with previous canvasses.—With the exception of the number of persons employed, every item of the data for the fisheries of Tennessee shows a substantial increase in 1908, as compared with prior years. The following tabular statement presents comparative statistics for those years for which figures are available:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Boats.	Apparatus of capture.	Quantity (pounds).	Value.
1908	427	$37,000	$9,400	$27,000	4,506,000	$112,000
1899	424	31,000	7,100	24,000	2,775,000	88,000
1884	503	24,000	4,900	19,000	2,445,000	83,000

Persons employed.—The fisheries of the Mississippi River district reported 62 per cent of the total number of persons employed and those of the Cumberland and Tennessee Rivers accounted for the remaining 38 per cent. Only 67 fishermen, or 16 per cent of the total number of persons engaged in the fisheries of the state, were wage-earners, the remainder being proprietors or independent fishermen.

The following tabular statement gives the data concerning persons employed in the fisheries of Tennessee in 1908:

DISTRICT.	PERSONS EMPLOYED: 1908.			
	Number.			Wages.
	Total.	Proprietors and independent fishermen.	Wage-earners.	
Total	427	[1] 360	67	[2] $12,000
Mississippi River district	263	232	31	8,100
Cumberland and Tennessee Rivers	164	128	36	4,100

[1] Exclusive of four proprietors not fishing.
[2] Includes provisions furnished to the value of $700.

Equipment and other capital.—The distribution of the investment in the fisheries of Tennessee is shown in the following tabular statement:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Mississippi River district.	Cumberland and Tennessee Rivers.
Total	$50,000	$42,000	$7,500
Boats	9,400	7,100	2,300
Steam and motor	2,900	2,300	600
Row and other	6,400	4,700	1,700
Apparatus of capture	27,000	23,000	4,400
Shore and accessory property	13,000	12,000	800
Cash	500	500	.....

The Mississippi River district is credited with 85 per cent of the total investment in the fisheries of the state. The investment in this district included 75 per cent of the total investment in boats for the state, 84 per cent of that in apparatus of capture, 93 per cent of that in shore and accessory property, and the total amount of cash reported. The Mississippi River district reported 10 of the 12 steam and motor boats and 218 of the 387 boats included under the head "Row and other."

The numbers of the more important kinds of apparatus of capture used, all of which, with the exception of 699 fyke and hoop nets reported for the Cumberland and Tennessee Rivers, were used in the Mississippi River district, were as follows:

Fyke and hoop nets	2,904
Pound nets	19
Seines	8
Shrimp traps	50
Spears and gigs	63
Trammel nets	28

Products, by species.—The distribution of the fishery products of the state, by species and by apparatus of capture, is shown in Table 1, on page 244.

The most important products in respect to value were buffalo fish, catfish, mussel shells, pearls, and slugs, and black bass; these products representing 62 per cent, or about five-eighths, of the total value of products for the state.

Products, by fishing grounds.—The products of the Mississippi River district and of the Tennessee and Cumberland Rivers are given in detail, by species and apparatus of capture, in Tables 2 and 3, on page 245.

The following tabular statement distributes the value of products, by species arranged in the order of value, for the state and for each district:

SPECIES	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Cumberland and Tennessee Rivers.
Total	$112,000	$73,000	$39,000
Fish	97,000	72,000	25,000
Buffalo fish	22,000	19,000	3,200
Catfish	20,000	11,000	8,700
Black bass	13,000	12,000	100
Drum, fresh-water	9,500	2,000	7,500
Carp, German	8,200	6,600	1,600
Crappie	7,800	7,600	200
Paddlefish	7,500	7,100	300
All other	9,200	5,600	3,600
Mussel shells, pearls, and slugs	14,000	.....	14,000
All other	1,200	1,200	.....

The fish products proper amounted in the aggregate to 2,330,000 pounds, or 52 per cent of the total weight of all fishery products, and were valued at $97,000, or 87 per cent of the total value. Of the total value of products reported for the Mississippi River district, the value of fish proper constituted 98 per cent; but the proportion was only 65 per cent in the case of the fisheries of the Cumberland and Tennessee Rivers. Practically all of the black bass, crappie, and paddlefish, as well as a large part of the buffalo fish, catfish, and German carp, were obtained from the Mississippi River district. The only fish which was more abundant in the Tennessee and Cumberland Rivers than in the Mississippi River was the fresh-water drum, the product of which, however, was less in quantity and value than the catfish product of the first two rivers. The mussel-shell products, including pearls and slugs, contributed 35 per cent of the value of the fishery products of the Cumberland and Tennessee Rivers.

The combined catch of the Mississippi River and its tributary waters, exclusive of the Tennessee and Cumberland Rivers, was 1,993,000 pounds, valued at $73,000, while that of the Tennessee and Cumberland Rivers was 2,513,000 pounds, valued at $39,000. The value reported for the former district formed 65 per cent of the value of all the fishery products of the state.

The following tabular statement gives in detail the products of the Reelfoot Lake fisheries in 1908:

SPECIES.	FISHERY PRODUCTS OF REELFOOT LAKE: 1908.	
	Quantity (pounds).	Value.
Total	1,147,000	$43,000
Fish	1,142,000	42,000
Black bass	174,000	12,000
Buffalo fish	312,000	7,800
Crappie	174,000	7,000
Paddlefish	142,000	5,700
Caviar	3,000	600
Bream, or sunfish	144,000	3,500
Catfish	82,000	2,900
Carp, German	62,000	1,500
All other	49,000	1,000
Frogs	5,000	1,000

Products, by apparatus of capture.—The following tabular statement shows the distribution, by apparatus of capture, of the value of the fishery products reported for the state as a whole and for the two districts into which it is divided:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Mississippi River district.	Cumberland and Tennessee Rivers.
Total	$112,000	$73,000	$39,000
Fyke and hoop nets	45,000	31,000	14,000
Lines	32,000	21,000	11,000
Crowfoot dredges, etc.	14,000	.....	14,000
Seines	8,700	8,700	.....
Trammel nets	7,600	7,600	.....
All other	5,200	5,200	.....

The value of the catch by fyke and hoop nets represented 40 per cent of the value of all the fishery products of Tennessee. Lines ranked next in value of catch, taking nearly all of the black bass, the larger part of the catfish, and all of the eels. Crowfoot dredges were used exclusively in the mussel-shell and pearl industries.

Principal species.—The value of the catch of buffalo fish formed 20 per cent of the value of all fishery products. The quantity of buffalo fish caught decreased from 862,000 pounds in 1899 to 704,000 pounds in 1908, or 18 per cent, while the value increased from $19,000 to $22,000, or 19 per cent. Only 15 per cent of the value reported for this fish is credited to the Cumberland and Tennessee Rivers, much the larger part representing the value of product from the Mississippi River and its tributaries.

Catfish ranked second in importance, with a value but little less than that reported for buffalo fish. The catch of catfish decreased in quantity and in value between 1899 and 1908.

The mussel-shell and pearl industry was carried on only on the Cumberland and Tennessee Rivers. Although this branch of the state's fisheries was not introduced into Tennessee until after 1899, it has developed rapidly, the product for 1908 amounting to 2,170,000 pounds, valued at $14,000. Of the total value, $9,400 represented the value of the mussel shells and $4,200 that of the pearls and slugs.

The catch of black bass increased from 142,000 pounds, valued at $8,700, in 1899, to 177,000 pounds, valued at $13,000, in 1908. Practically all of this product in 1908, 174,000 pounds, was caught in Reelfoot Lake.

Of the fresh-water drum reported, 50 per cent of the total weight and 79 per cent of the total value were credited to the Cumberland and Tennessee Rivers. This species shows a large decrease in quantity and a small decrease in value, the catch in 1899 being 311,000 pounds, valued at $11,000, and that in 1908 amounting to 204,000 pounds, valued at $9,500.

The German-carp product increased in quantity and value between 1899 and 1908 in Tennessee, as in most of the other states of the Mississippi Valley. A large quantity, representing 91 per cent of the weight and 80 per cent of the value of the German carp reported for this state, was caught in the Mississippi River district. The catch of crappie has also increased in quantity and in value while that of paddlefish has decreased in quantity but increased in value since 1899.

TABLE 1.—TENNESSEE—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Fyke and hoop nets.		Lines.		Seines.		Trammel nets.		Spears and gigs.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	4,506,000	$112,000	1,159,000	$45,000	540,000	$32,000	223,000	$8,700	275,000	$7,600	64,000	$2,600	2,246,000	$16,000
Fish:														
Black bass	177,000	13,000	9,800	700	158,000	11,000	200	(2)	9,000	700			100	(2)
Bream, or sunfish	148,000	3,700	132,000	3,300	700	(2)	700	(2)	7,400	200			7,300	100
Buffalo fish	704,000	22,000	356,000	12,000	39,000	1,900	46,000	1,300	207,000	5,400	31,000	800	24,000	600
Carp, German	257,000	8,200	149,000	5,300	27,000	1,200	7,200	200	32,000	900	15,000	400	6,100	200
Catfish	367,000	20,000	105,000	6,100	241,000	13,000	10,000	500	1,600	100	2,700	100	6,100	200
Crappie	186,000	7,800	164,000	6,800	2,200	200	6,700	300	1,000	100			12,000	500
Drum, fresh-water	204,000	9,500	142,000	6,300	51,000	3,100	7,200	100	1,100	(2)			2,600	(2)
Eels	3,100	100			3,100	100								
Hickory shad	2,800	100	2,200	100	600	(2)								
Paddlefish	195,000	7,500	34,000	1,000			138,000	5,600	2,000	100	7,100	300	14,000	600
Perch, yellow	5,000	300	2,200	100			2,800	100						
Pike	100	(2)	100	(2)										
Pike perch (wall-eyed pike)	2,900	300	800	100	2,100	200								
Sturgeon, shovelnose	11,000	400	2,700	100	8,400	300								
Caviar and paddlefish eggs	3,200	700	200	100			2,600	500			200	(2)	300	100
Suckers	69,000	3,200	45,000	2,400	6,900	500	1,100	(2)	13,000	300	2,100	(2)	1,100	(2)
White bass and rock bass	13,000	300	11,000	300					600	(2)			600	(2)
Frogs	5,000	1,000									5,000	1,000		
Shrimp	1,700	200											1,700	200
Mussel shells	2,170,000	9,400											2,170,000	9,400
Pearls and slugs		4,200												4,200

[1] Includes apparatus, with catch, as follows: Crowfoot dredges, etc., 2,170,000 pounds, valued at $14,000; pound nets, 74,000 pounds, valued at $2,400; and shrimp traps, 1,700 pounds, valued at $200.
[2] Less than $100.

TABLE 2.—TENNESSEE—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Fyke and hoop nets.		Lines.		Seines.		Trammel nets.		Spears and gigs.		Pound nets.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,993,000	$73,000	961,000	$31,000	395,000	$21,000	223,000	$8,700	275,000	$7,600	64,000	$2,600	76,000	$2,500
Fish:														
Black bass	176,000	12,000	9,700	700	157,000	11,000	200	(2)	9,000	700			100	(2)
Bream, or sunfish	148,000	3,700	132,000	3,300	500	(2)	700	(2)	7,400	200			7,300	100
Buffalo fish	662,000	19,000	331,000	10,000	22,000	600	46,000	1,300	207,000	5,400	31,000	800	24,000	600
Carp, German	215,000	6,000	137,000	4,500	17,000	500	7,200	200	32,000	900	15,000	400	6,100	200
Catfish	263,000	11,000	62,000	2,400	180,000	8,000	10,000	500	1,600	100	2,700	100	6,100	200
Crappie	184,000	7,600	163,000	6,700	600	(2)	6,700	300	1,000	100			12,000	500
Drum, fresh-water	102,000	2,000	79,000	1,600	12,000	300	7,200	100	1,100	(2)			2,600	(2)
Eels	2,600	100			2,600	100								
Paddlefish	190,000	7,100	29,000	700			138,000	5,600	2,000	100	7,100	300	14,000	600
Perch, yellow	5,000	300	2,200	100			2,800	100						
Pike	100	(2)	100	(2)										
Sturgeon, shovelnose	2,600	100			2,600	100								
Caviar and paddlefish eggs	3,200	700	200	100			2,600	500			200	(2)	300	100
Suckers	21,000	400	4,400	100			1,100	(2)	13,000	300	2,100	(2)	1,100	(2)
White bass and rock bass	13,000	300	11,000	300					600	(2)			600	(2)
Frogs	5,000	1,000									5,000	1,000		
Shrimp	1,700	200											1,700	200

[1] Includes shrimp traps, with catch of 1,700 pounds, valued at $200.
[2] Less than $100.

TABLE 3.—TENNESSEE—FISHERY PRODUCTS OF CUMBERLAND AND TENNESSEE RIVERS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Fyke and hoop nets.		Lines.		Crowfoot dredges, etc.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	2,513,000	$39,000	198,000	$14,000	145,000	$11,000	2,170,000	$14,000
Fish:								
Black bass	1,100	100	100	(1)	1,000	100		
Buffalo fish	42,000	3,200	25,000	1,900	17,000	1,300		
Carp, German	23,000	1,600	13,000	900	10,000	700		
Catfish	104,000	8,700	43,000	3,700	61,000	5,000		
Crappie	2,300	200	700	100	1,600	200		
Drum, fresh-water	102,000	7,500	64,000	4,700	39,000	2,900		
Hickory shad	2,800	100	2,200	100	600	(1)		
Paddlefish	5,800	300	5,800	300				
Pike perch (wall-eyed pike)	2,900	300	800	100	2,100	200		
Sturgeon, shovelnose	8,500	400	2,700	100	5,800	200		
Suckers	48,000	2,800	41,000	2,300	6,900	500		
All other	800	100			800	100		
Mussel shells	2,170,000	9,400					2,170,000	9,400
Pearls and slugs		4,200						4,200

[1] Less than $100.

TEXAS.

Although Texas has an extensive coast line, its fishery product in 1908 was smaller than that of any other Gulf state except Alabama. The principal fishing grounds were Galveston, Corpus Christi, Aransas, and Matagorda Bays, and Sabine Lake. Oysters, red snapper, and squeteague composed two-thirds of the fishery product. The principal statistics for 1908 are summarized in the following statement:

Number of persons employed	1,780
Capital:	
Vessels and boats, including outfit	$387,000
Apparatus of capture	41,000
Shore and accessory property and cash	26,000
Value of products	446,000

Comparison with previous canvasses.—The canvass of 1908 reveals large increases over 1902 and previous years in all features of the industry. Except for the fact that the canvass of 1897 showed a slight decrease in nearly every item, as compared with that of 1890, the upward movement has been continuous during the years for which statistics are available. Comparative statistics for these years are as follows:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	1,720	$428,000	$387,000	$41,000	10,439,000	$446,000
1902	1,055	212,000	192,000	20,000	8,044,000	354,000
1897	1,140	152,000	130,000	23,000	7,175,000	287,000
1890	1,116	155,000	131,000	24,000	7,959,000	314,000
1887	901	126,000	105,000	21,000	6,282,000	256,000

Persons employed.—The following tabular statement gives the distribution of the persons employed in the fisheries of Texas in 1908, and of the wages and salaries paid:

CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	1,780	[1] 1,063	5	712	$190,000	$7,100	[2] $183,000
Vessel fisheries	[3] 407	163	5	239	71,000	7,100	64,000
Shore and boat fisheries	1,313	900	.....	413	110,000	.....	110,000
Shoresmen	60	.....	.....	60	9,500	.....	9,500

[1] Exclusive of two proprietors not fishing.
[2] Includes provisions furnished to the value of $41,000.
[3] Includes three persons employed on a vessel engaged in transporting.

Of the shoresmen, 37 were employed in the vessel fisheries and the remaining 23 in the shore and boat fisheries. The total number of persons connected with the vessel fisheries, therefore, was 444, and the total number connected with the shore and boat fisheries 1,336. It is apparent that in the shore and boat fisheries more than one-half of those classed as "Proprietors and independent fishermen" were independent fishermen.

Equipment and other capital.—In the following tabular statement statistics are given as to the equipment and the other capital employed in the fisheries of Texas:

CLASS OF INVESTMENT.	EQUIPMENT AND OTHER CAPITAL: 1908.		
	Value.	Number.	Tonnage.
Total	$454,000	.....	.....
Vessels (fishing), including outfit	269,000	157	1,538
Steam and motor [1]	47,000	45	349
Vessels	39,000	.....	.....
Outfit	8,300	.....	.....
Sail	222,000	73	1,189
Vessels	181,000	.....	.....
Outfit	41,000	.....	.....
Other	900	36	.....
Boats	117,000	991	.....
Steam and motor	39,000	97	.....
Sail	70,000	268	.....
Row	7,300	594	.....
Other	1,100	32	.....
Apparatus of capture	41,000	.....	.....
Vessel fisheries	7,100	.....	.....
Shore and boat fisheries	34,000	.....	.....
Shore and accessory property	7,400	.....	.....
Cash	19,000	.....	.....

[1] Includes one vessel of six tons engaged in transporting.

Of the total investment in the Texas fisheries, the value of the various kinds of craft, including the outfits, formed 85 per cent, and of this portion over two-thirds represented the value of vessels. The value of the apparatus of capture used in the shore and boat fisheries was nearly five times as great as that of the apparatus used in the vessel fisheries. Of the investment in shore and accessory property, $4,000 was reported for the vessel fisheries and $3,500 for the shore and boat fisheries, while practically all the cash was reported for the vessel fisheries. The total investment in the shore and boat fisheries was $155,000, and that in the vessel fisheries $299,000. Nets and seines were the most important form of apparatus. The numbers of the more important kinds of apparatus reported, all of which, with the exception of 38 seines, were used in the shore and boat fisheries, were as follows:

Cast nets	332
Dip nets	69
Firearms, guns, etc	137
Fyke nets	455
Gill nets	219
Mink traps	30
Seines	298
Trammel nets	19
Turtle nets	1

Products, by species.—Table 1, on page 249, gives the fishery products of the state, by species and by apparatus of capture. A large variety of species are represented in the catch of this state, chief among which are oysters, red snapper, squeteague, and channel bass, or redfish. These products together contributed 75 per cent of the value of all fishery products taken in the state, oysters alone representing 38 per cent of the value. The only species in the catch of which Texas led all other states was jewfish.

Products, by class of fisheries.—Table 2, on page 250, gives the products of the vessel fisheries, by species and by apparatus of capture, while Table 3, on page 250, gives similar statistics for the shore and boat fisheries. The following tabular statement gives the distribution, by species, of the total value of products for the fisheries of the state as a whole and for each class of fisheries. Only products for which a total value in excess of $5,000 was reported are shown separately.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$446,000	$161,000	$285,000
Fish	265,000	97,000	168,000
Red snapper	79,000	79,000	.....
Squeteague	46,000	5,400	41,000
Channel bass, or redfish	43,000	5,300	38,000
Catfish	26,000	600	26,000
Sheepshead	14,000	2,200	12,000
Pike	11,000	700	10,000
Drum, salt-water	9,300	1,200	8,100
Buffalo fish	7,400	100	7,400
Croaker	7,000	800	6,200
Flounders	6,600	800	5,800
All other	15,000	1,200	14,000
Oysters, market	167,000	62,000	105,000
All other	14,000	1,400	13,000

The vessel fisheries took products which represented 36 per cent of the value and a slightly larger percentage of the weight of the total fishery product. The red snapper ranked first in value among the products of the vessel fisheries, its value forming 49 per cent of the total value of products of this class of fisheries, while market oysters ranked second, contributing 39 per cent of the total.

The shore and boat fisheries contributed 64 per cent of the total value of the fishery product of the state and 62 per cent of the total quantity. With the exception of red snapper, every species which entered into the state product was included in the catch of this branch of the fisheries. Oysters were the leading species, their value forming 37 per cent of the value of all shore and boat products. Squeteague, channel bass, and catfish were the leading species of fish proper reported by the shore and boat fisheries, and comprised 36 per cent of the quantity and furnished 37 per cent of the value of the total product of this class of fisheries. The remainder of the product is evenly distributed.

Products, by apparatus of capture.—The distribution by apparatus of capture of the value of the products for the state as a whole and for each class of fisheries is shown in the following tabular statement:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$446,000	$161,000	$285,000
Dredges, tongs, etc	167,000	63,000	105,000
Seines	153,000	18,000	135,000
Lines	101,000	80,000	21,000
Gill nets	7,000	.....	7,000
All other	18,000	200	17,000

Dredges, tongs, etc., were used exclusively in the oyster industry. Though ranking first with respect to value of catch in the state as a whole, contributing 37 per cent of the total value of products, this class of apparatus ranked second in importance for each class of fisheries, being surpassed in the vessel fisheries by lines and in the shore and boat fisheries by seines. The products taken with seines, which represented 34 per cent of the total value of products for the state, included almost every species taken. The value of squeteague and channel bass constituted over one-half of the total value of the seine catch. The value of the catch by lines, which ranked third in importance, formed 23 per cent of the total value of the fishery products of the state. Practically all of the catch in the vessel fisheries was made by lines, dredges, tongs, etc., and seines. The value of the line catch, which consisted chiefly of red snapper, formed 50 per cent of the total value of products for this class of fisheries; that of the catch with dredges, tongs, etc., 39 per cent; and that of the seine catch, 11 per cent. In the shore and boat fisheries the value of the catch with seines represented 47 per cent, and the value of the catch with dredges, tongs, etc., 37 per cent of the total value of the catch. Lines ranked third in this class of fisheries, half of the catch with this form of apparatus being composed of catfish.

Oysters.—The yield of market oysters aggregated 490,000 bushels, with a value of $167,000. Of the total quantity, 63 per cent was reported for the shore and boat fisheries and 37 per cent for the vessel fisheries. The bulk of the catch was from public areas, only 3,400 bushels, valued at $1,200, being from private areas. The entire product reported from private areas was credited to the shore and boat fisheries. The seed oyster product was small, 5,700 bushels, valued at $400, being taken from public areas in the vessel fisheries, and 1,800 bushels, valued at $200, from public areas in the shore and boat fisheries. The value of the oyster product formed about the same proportion of the total value of products in the two classes of fisheries, the percentages being 37 for the shore and boat fisheries and 39 for the vessel fisheries. The average price per bushel for market oysters was 34 cents. The oyster product for a series of years is shown in the following tabular statement:

YEAR.	OYSTER PRODUCT.	
	Quantity (bushels).	Value.
1908	497,000	$168,000
1902	343,000	100,000
1897	356,000	95,000
1890	441,000	128,000
1887	256,000	88,000
1880	96,000	47,000

The increase in the oyster yield accounts for a large part of the gain made by the fisheries of the state since 1902 and during previous years. The variations in the fishery products, which are shown in the tabular statement on page 245, conform in general to the fluctuations in the oyster product.

Red snapper.—The value of the red-snapper catch formed nearly 30 per cent of that of all fish proper, while the weight formed 34 per cent of the total weight. This species was taken entirely with lines and wholly in the vessel fisheries. Its value formed 49 per cent of the value of the entire catch of the vessel fisheries and 81 per cent of the value of all fish proper taken in these fisheries. The growth of the red-snapper fishery since 1890 has been remarkable. In 1902 the value of the catch exceeded that of oysters, but an increase in yield has been accompanied by a decrease in value, while in the case of oysters the value increased at a higher rate than the quantity. The following tabular statement gives statistics of the catch for those years for which figures are available:

YEAR.	RED-SNAPPER PRODUCT.	
	Quantity (pounds).	Value.
1908	2,252,000	$79,000
1902	2,068,000	103,000
1897	465,000	17,000
1890	4,800	200
1887	75,000	4,100

Salt-water drum.—Salt-water drum, channel bass, or redfish, represented 12 per cent of the value of the total product, 4 per cent of the value of the vessel product, and 16 per cent of the value of the shore and boat product. Of the total quantity, 92 per cent was from shore and boat fisheries. Seines took 93 per cent of the product, and over one-half of the remainder was taken with lines. Although the catch of this product in 1908 was the largest ever reported, the value was the same as in 1897, as the following tabular statement shows:

YEAR.	SALT-WATER DRUM, CHANNEL BASS, OR REDFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	1,309,000	$32,000
1902	1,036,000	43,000
1897	1,144,000	52,000
1890	1,112,000	48,000
1887	1,005,000	38,000

Squeteague.—The value of squeteague, or sea trout, formed 10 per cent of the value of all fishery products. Though ranking fourth in value among the products in the vessel fisheries, the species represented only 3 per cent of the total value of products of this class of fisheries. In the shore and boat fisheries the value of this fish formed 14 per cent of the value of all products and ranked first among fish proper. Of the total squeteague catch, 90 per cent was reported for the shore and boat fisheries. Seines are credited with 92 per cent of the total quantity and lines with three-fifths of the remainder. The catch of this fish has been fairly constant for the several years for which statistics are available, as will appear from the following tabular statement:

YEAR.	SQUETEAGUE PRODUCT.	
	Quantity (pounds).	Value.
1908	1,055,000	$46,000
1902	1,119,000	50,000
1897	1,012,000	46,000
1890	1,120,000	48,000
1887	941,000	38,000

Catfish.—The value of catfish constituted 6 per cent of the total value of the products of the Texas fisheries. This species was caught almost entirely in the shore and boat fisheries, and the value of the catch comprised 9 per cent of the value of products for this class of fisheries. Something less than one-half of the product was taken with seines, while the remainder was taken chiefly with lines. The catch of catfish shows a large increase since 1902, as will be seen from the following tabular statement:

YEAR.	CATFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	560,000	$26,000
1902	75,000	3,200
1897	71,000	3,000
1890	45,000	2,100
1887	47,000	2,500

TABLE 1.—TEXAS—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Lines.		Gill nets.		Trammel nets.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,439,000	$446,000	3,655,000	$153,000	2,712,000	$101,000	151,000	$7,000	79,000	$4,000	87,000	$3,200	3,755,000	$178,000
Fish:														
Black bass	17,000	1,200	1,500	200	5,000	400	5,200	400	5,000	400				
Bluefish	9,700	500	9,700	500										
Buffalo fish	240,000	7,400	131,000	4,100	32,000	1,100	15,000	600	21,000	660			41,000	1,100
Carp, German	2,200	100	400	(2)	1,300	100			400	(2)				
Catfish	560,000	26,000	259,000	12,000	219,000	11,000	35,000	1,700	17,000	800			29,000	1,400
Crappie	40,000	2,800	25,000	1,800	2,100	200			13,000	900				
Crevallé	19,000	800	18,000	800	300	(2)	100	(2)						
Croaker	159,000	7,000	152,000	6,600	2,700	200	3,800	200	500	(2)	100	(2)		
Drum, fresh-water	13,000	700	6,000	400	2,600	100	3,000	200	700	(2)			1,000	(2)
Drum, salt-water (channel bass, or redfish)	1,309,000	52,000	1,215,000	48,000	51,000	2,600	33,000	1,300	11,000	700			(2)	(2)
Flounders	140,000	6,100	106,000	4,700	600	(2)	2,600	100	700	(2)	300	(2)	30,000	1,300
Jewfish	45,000	1,300	8,800	300	37,000	1,100								
Mullet	20,000	900	17,000	800			3,000	200			500	(2)		
Paddlefish, caviar, and paddlefish eggs	33,000	1,500	21,000	1,100			12,000	400						
Perch, yellow	1,800	100	1,100	100	700	(2)					(2)	(2)		
Pigfish	2,600	100	2,000	100	400	(2)					100	(2)		
Pike	305,000	11,000	304,000	11,000	200	(2)	1,400	100						
Pompano	18,000	1,100	17,000	1,000	100	(2)	600	(2)	(2)	(2)				
Sheepshead	298,000	14,000	271,000	13,000	15,000	900	6,500	300	2,500	200	1,800	100	200	(2)
Snapper, red	2,252,000	79,000			2,252,000	79,000								
Spanish mackerel	42,000	3,400	18,000	1,400	24,000	1,800	900	100	300	(2)				
Squeteague	1,055,000	46,000	968,000	42,000	52,000	2,700	28,000	1,400	6,500	400			(2)	(2)
Strawberry bass	700	100	700	100										
Whiting	9,900	500	6,500	300	3,300	200					100	(2)		
All other	4,900	200	4,400	100	200	(2)	200	(2)			(2)	(2)	100	(2)
Crabs, hard	199,000	4,800	17,000	400	11,000	300					7,100	200	164,000	3,900
Crabs, soft	600	200	(2)	(2)	100	100					(2)	(2)	500	100
Shrimp	118,000	4,400	42,000	1,600	(2)	(2)					77,000	2,800		
Terrapin	15,000	1,600	15,000	1,400			(2)	(2)					400	200
Turtles	20,000	1,000	19,000	900	500	(2)							600	(2)
Oysters, market, from public areas	[4] 3,404,000	166,000											[4] 3,404,000	166,000
Oysters, market, from private areas	[5] 24,000	1,200											[5] 24,000	1,200
Oysters, seed, from public areas	[6] 52,000	600											[6] 52,000	600
Hides, alligator	[7] 7,000	1,400	(2)	(2)									[7] 7,000	1,400
Skins, mink	[8] (2)	(2)											(2)	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 3,468,000 pounds, valued at $167,000; dip nets, 164,000 pounds, valued at $4,000; fyke, hoop, and turtle nets, 73,000 pounds, valued at $2,600; harpoons, spears, etc., 31,000 pounds, valued at $1,700; firearms, 6,900 pounds, valued at $1,400; and minor apparatus, 13,000 pounds, valued at $800.

[2] Less than $100. [3] Less than 100 pounds. [4] 486 000 bushels. [5] 3,400 bushels. [6] 7,500 bushels. [7] 1,400 hides. [8] 30 skins.

TABLE 2.—TEXAS—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Lines.		Dredges, tongs, etc.		Seines.		Harpoons, spears, etc.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	3,945,000	$161,000	2,297,000	$80,000	1,308,000	$63,000	335,000	$18,000	4,900	$200
Fish:										
Buffalo fish	1,800	100					1,800	100		
Catfish	14,000	600	600	(1)			13,000	600		
Channel bass, or redfish	68,000	5,300	4,300	200			64,000	5,100		
Croaker	16,000	800					16,000	800		
Drum, salt-water	36,000	1,200	400	(1)			35,000	1,200		
Flounders	17,000	800	100	(1)			12,000	600	4,800	200
Jewfish	29,000	600	29,000	600			600	(1)		
Mullet	1,300	100					1,300	100		
Perch, yellow	1,100	100					1,100	100		
Pike	16,000	700					16,000	700		
Pompano	3,900	300					3,900	300		
Sheepshead	47,000	2,200	200	(1)			47,000	2,200		
Snapper, red	2,252,000	79,000	2,252,000	79,000						
Spanish mackerel	2,100	200					2,100	200		
Squeteague	107,000	5,400	3,900	200			103,000	5,200		
Whiting	2,300	100					2,300	100		
All other	300	(1)					300	(1)		
Crabs, hard	7,400	200	7,000	200			400	(1)		
Shrimp	7,900	400					7,900	400		
Terrapin	4,000	300					4,000	300		
Turtles	2,000	100					2,000	100		
Oysters, market, from public areas	[2] 1,269,000	62,000			[2] 1,269,000	62,000				
Oysters, seed, from public areas	[2] 40,000	400			[2] 40,000	400				
Hides, alligator [5]	100	(3)					(4)	(3)	(4)	(3)

[1] Less than $100. [2] 181,000 bushels. [3] 5,700 bushels. [4] Less than 100 pounds. [5] 10 hides.

TABLE 3.—TEXAS—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Seines.		Lines.		Gill nets.		Trammel nets.		Cast nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	6,494,000	$285,000	3,329,000	$135,000	416,000	$21,000	151,000	$7,000	79,000	$4,000	87,000	$3,200	2,442,000	$115,000
Fish:														
Black bass	17,000	1,200	1,500	200	5,000	400	5,200	400	5,000	400				
Bluefish	9,700	500	9,700	500										
Buffalo fish	239,000	7,400	129,000	4,100	32,000	1,100	15,000	600	21,000	600			41,000	1,100
Carp, German	2,200	100	400	(2)	1,300	100			400	(2)				
Catfish	546,000	26,000	246,000	11,000	218,000	11,000	35,000	1,700	17,000	800			29,000	1,400
Channel bass, or redfish	880,000	38,000	785,000	34,000	43,000	2,200	21,000	1,100	11,000	700			(2)	(2)
Crappie	40,000	2,800	25,000	1,800	2,100	200			13,000	900				
Crevalle	19,000	800	18,000	800	300	(2)	100	(2)						
Croaker	143,000	6,200	136,000	5,900	2,700	200	3,800	200	500	(2)	100	(2)		
Drum, fresh-water	13,000	700	5,700	400	2,600	100	3,000	200	700	(2)			1,000	(2)
Drum, salt-water	345,000	8,100	330,000	7,700	2,900	100	12,000	300						
Flounders	123,000	5,800	94,000	4,100	500	(2)	2,600	100	700	(2)	300	(2)	26,000	1,400
Jewfish	17,000	700	8,200	200	8,800	500								
Mullet	19,000	900	15,000	700			3,000	200			500	(2)		
Paddlefish, caviar, and paddlefish eggs	33,000	1,500	21,000	1,100			12,000	400						
Pigfish	2,600	100	2,000	100	400	(2)					100	(2)		
Pike	289,000	10,000	288,000	10,000	200	(2)	1,400	100						
Pompano	14,000	800	13,000	800	100	(2)	500	(2)	(2)	(2)				
Sheepshead	251,000	12,000	224,000	10,000	15,000	900	6,500	300	2,500	200	1,800	100	200	(2)
Spanish mackerel	40,000	3,200	16,000	1,300	24,000	1,800	900	100	300	(2)				
Squeteague	948,000	41,000	865,000	36,000	48,000	2,500	28,000	1,400	6,500	400			(2)	(2)
Strawberry bass	700	100	700	100										
Whiting	7,600	400	4,200	200	3,300	200					100	(2)		
All other	5,400	200	4,100	100	900	100	200	(2)			(2)	(2)	100	(2)
Crabs, hard	192,000	4,600	17,000	400	3,600	100					7,100	200	164,000	3,900
Crabs, soft	600	200	(2)	(2)	100	100					(2)	(2)	500	100
Shrimp	111,000	4,100	34,000	1,200	(2)	(2)					77,000	2,800		
Terrapin	11,000	1,300	11,000	1,100			(2)	(2)					400	200
Turtles	18,000	900	17,000	800	500	(2)							600	(2)
Oysters, market, from public areas	[3] 2,135,000	104,000											[3] 2,135,000	104,000
Oysters, market, from private areas	[4] 24,000	1,200											[4] 24,000	1,200
Oysters, seed, from public areas	[5] 13,000	200											[5] 13,000	200
Hides, alligator	[6] 6,900	1,400											[6] 6,900	1,400
Skins, mink [7]	(2)	(2)											(2)	(2)

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 2,160,000 pounds, valued at $105,000; dip nets, 164,000 pounds, valued at $4,000; fyke, hoop, and turtle nets, 73,000 pounds, valued at $2,600; harpoons, spears, etc., 26,000 pounds, valued at $1,500; firearms, 6,900 pounds, valued at $1,400; and minor apparatus, 13,000 pounds, valued at $800.
[2] Less than $100. [3] Less than 100 pounds. [4] 305,000 bushels. [5] 1,800 bushels. [6] 3,400 bushels. [7] 1,400 hides. [8] 30 skins.

VIRGINIA.

In the total value of fishery products Virginia had second place in 1908 among the states in which commercial fisheries were carried on, and in the value of its shad, menhaden, alewife, croaker, caviar, sturgeon, crab, and hard-clam products it ranked first. The taking of oysters was the most important branch of the fishing industry of the state, the product being valued at $2,348,000. The shad and menhaden products ranked next in importance, each being valued at between four and five hundred thousand dollars, while clams and crabs followed in rank, the product of each having a value in excess of $300,000. Though fisheries are conducted at nearly every available point along the Atlantic coast from North Carolina to the Maryland line, the most important fisheries of the state are in the waters of Chesapeake Bay and its tributaries. This latter district covers an extensive area, comprising not only the waters of Chesapeake Bay, but also Tangier and Pocomoke Sounds and the tidal waters of the Potomac, Wicomico, Rappahannock, York, and James Rivers.

The following statement gives a general summary of the statistics of the industry in Virginia in 1908:

Number of persons employed	20,066
Capital:	
Vessels and boats, including outfit	$2,065,000
Apparatus of capture	485,000
Shore and accessory property and cash	434,000
Value of products	4,716,000

Comparison with previous canvasses.—Comparative statistics for years for which figures are available are given in the next tabular statement.

In the total value of equipment and in the quantity of products increases are shown at each canvass from 1891 to 1904. The value of the product in 1904 was 76 per cent greater than that in 1897. The figures for 1908, however, show a decrease in every item as compared with the figures for the preceding canvass. In 1908 there were 3,298 fewer persons employed, exclusive of shoresmen, than in 1904, a decrease of 14 per cent. The decline in the total value of equipment was $95,000, or only 4 per cent. The value reported for fishing and transporting vessels, including outfits, decreased from $1,502,000 in 1904 to $1,332,000 in 1908, but as the value of boats increased during the same years from $591,000 in 1904 to $733,000 in 1908, the total amount of capital represented by vessels, including outfits and boats, changed very little, namely, from $2,093,000 in 1904 to $2,065,000 in 1908, The increase in the number of motor boats has been marked, 1,066 power boats being reported in 1908, as compared with only 38 in 1904. The value of apparatus of capture decreased $67,000, or 12 per cent, while the products showed a decrease from 1904 to 1908 of 16 per cent in value and 12 per cent in quantity.

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	19,905	$2,550,000	$2,065,000	$485,000	312,515,000	$4,716,000
1904	23,203	2,645,000	2,093,000	552,000	355,316,000	5,584,000
1897	24,252	1,859,000	1,408,000	451,000	277,994,000	3,179,000
1891	20,316	1,763,000	1,403,000	361,000	183,994,000	3,648,000
1880	16,051	1,424,000	[1] 864,000	[2] 561,000	158,875,000	3,124,000

[1] Exclusive of outfit. [2] Includes outfit.

Persons employed.—In 1908 the fisheries of Virginia gave employment to 20,066 persons. The number of persons employed has gradually declined since 1897, when it was larger than in any other year for which statistics are available.

The following table presents statistics relating to persons employed in 1908:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	20,066	[1] 10,324	29	9,713	$1,316,000	$21,000	[2] $1,295,000
Vessel fisheries	3,188	639	15	2,534	455,000	13,000	442,000
Transporting vessels	1,133	343	3	787	130,000	1,600	128,000
Shore and boat fisheries	15,584	9,342	11	6,231	700,000	6,400	693,000
Shoresmen	161			161	32,000		32,000
Chesapeake Bay district	17,416	8,913	24	8,479	1,149,000	17,000	1,132,000
Vessel fisheries	2,970	487	15	2,468	449,000	13,000	436,000
Transporting vessels	978	294	3	681	113,000	1,600	111,000
Shore and boat fisheries	13,314	8,132	6	5,176	557,000	3,000	554,000
Shoresmen	154			154	31,000		31,000
Atlantic Ocean district	2,650	1,411	5	1,234	167,000	3,500	163,000
Vessel fisheries	218	152		66	5,600		5,600
Transporting vessels	155	49		106	17,000		17,000
Shore and boat fisheries	2,270	1,210	5	1,055	143,000	3,500	139,000
Shoresmen	7			7	1,100		1,100

[1] Exclusive of 277 proprietors not fishing. [2] Includes provisions furnished to the value of $145,000.

Of the total number of persons employed, 78 per cent were engaged in the shore and boat fisheries and 22 per cent in the vessel fisheries and on transporting vessels. In the vessel fisheries about 80 per cent, and in the shore and boat fisheries about 40 per cent, of the persons employed were wage-earners, the proportion of proprietors and independent fishermen being smaller than in most other states. About 87 per cent of all persons reported were connected with the fisheries of the Chesapeake Bay district, while the remaining 13 per cent were engaged in the fisheries along the Atlantic coast.

Equipment and other capital.—The following tabular statement gives the value of equipment and the amount of other capital invested in 1908, for the state and for each district:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Chesapeake Bay district.	Atlantic Ocean district.
Total	$2,984,000	$2,681,000	$302,000
Vessels, including outfit	1,332,000	1,247,000	85,000
Fishing	983,000	953,000	31,000
Steam and motor	761,000	753,000	8,500
Vessels	653,000	644,000	8,200
Outfit	109,000	109,000	300
Sail	223,000	200,000	23,000
Vessels	192,000	172,000	19,000
Outfit	31,000	28,000	3,500
Transporting	347,000	294,000	53,000
Steam and motor	119,000	95,000	25,000
Vessels	107,000	85,000	22,000
Outfit	12,000	10,000	2,000
Sail	228,000	199,000	29,000
Vessels	203,000	177,000	26,000
Outfit	25,000	22,000	2,500
Boats	733,000	632,000	101,000
Steam and motor	311,000	296,000	65,000
Sail	276,000	264,000	12,000
Row	112,000	101,000	11,000
Other	14,000	1,200	13,000
Apparatus of capture	485,000	433,000	51,000
Vessel fisheries	56,600	56,000	600
Shore and boat fisheries	428,000	378,000	51,000
Shore and accessory property	301,000	262,000	39,000
Cash	133,090	106,000	26,000

About 90 per cent of the total investment is credited to the Chesapeake Bay district. The investment in vessels, including outfits and boats, represented 69 per cent, that in apparatus of capture 16 per cent, and that in shore and accessory property, together with the cash capital reported, 15 per cent, of the total investment for the state.

By far the larger number of fishing and transporting vessels were sailing craft, and were employed in the Chesapeake Bay district. Only 120 vessels out of the total of 946 were engaged in fishing and transporting, and only 1,984 boats out of the total of 10,942 were connected with the fisheries of the Atlantic Ocean district. The other vessels and boats, numbering 826 and 8,958, respectively, were employed in the fisheries of Chesapeake Bay and its tributary waters. While sailing vessels greatly outnumbered steam and motor vessels in the Chesapeake Bay district, the latter class of craft had a value more than twice that of the former and a tonnage almost half as great. In the Atlantic Ocean district, however, the sailing vessels represented a greater value than the steam and motor vessels, and their total tonnage was more than seven times that of the steam and motor vessels. The following tabular statement gives detailed statistics concerning the number and tonnage of vessels and the number of boats:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Chesapeake Bay district.	Atlantic Ocean district.
Vessels:			
Fishing—			
Number	522	459	63
Tonnage	7,520	6,984	536
Steam and motor—			
Number	96	93	3
Tonnage	3,559	3,517	42
Sail—			
Number	426	366	60
Tonnage	3,961	3,467	494
Transporting—			
Number	424	367	57
Tonnage	5,454	4,808	646
Steam and motor—			
Number	92	77	15
Tonnage	857	756	101
Sail—			
Number	332	290	42
Tonnage	4,597	4,052	545
Boats, number	10,942	8,958	1,984
Steam and motor	1,066	848	218
Sail	3,611	3,409	202
Row	5,330	4,630	700
Other	935	71	864

The apparatus of capture reported for the shore and boat fisheries of Virginia largely exceeded in value that reported for the vessel fisheries, the investment in the former case being $428,000 and in the latter $56,000. The capital represented by this form of investment in the Atlantic Ocean district was only $51,000, or 11 per cent of the total investment in apparatus of capture for the state. The number of pound nets used was 1,908 and the number of seines 360. The latter were used in both vessel and shore and boat fisheries and in both of the districts into which the fishing grounds of the state are divided. The number of gill nets reported was 7,513. Because dredges are considered injurious to the oyster beds, their use in the public areas is restricted by law. They were therefore used comparatively little and often only to clean up the grounds which had previously been worked by tongs. The distribution of the more important kinds of apparatus of capture is shown in the following table:

DISTRICT AND CLASS OF FISHERIES.	APPARATUS OF CAPTURE: 1908.			
	Gill nets.	Pots.	Pound and trap nets.	Seines.
Total	7,513	902	1,908	360
Vessel fisheries	51	60	83	44
Shore and boat fisheries	7,462	842	1,825	316
Chesapeake Bay district	6,888	809	1,865	158
Vessel fisheries	51	60	83	43
Shore and boat fisheries	6,837	809	1,782	115
Atlantic Ocean district	625	33	43	202
Vessel fisheries				1
Shore and boat fisheries	625	33	43	201

Products, by species.—The fishery products of the state for 1908 are distributed, by species and by apparatus of capture, in Table 1, on page 256.

The value of the fishery products of Virginia formed 9 per cent of the total value of all fishery products of the United States. Oysters were the most important product, the value of the yield in 1908 forming only a small fraction less than 50 per cent of the value of all fishery products of the state. Aside from certain species of fish, clams and crabs were the only other important products. The quantity of crabs taken was 25,083,000 pounds, valued at $326,000, and the quantity of clams was 1,969,000 pounds, valued at $380,000.

The product of fish proper amounted in the aggregate to 249,890,000 pounds, or 80 per cent of the total weight of fishery products of the state, and was valued at $1,658,000, or 35 per cent of the total value. Including nine species tabulated under the head "All other," 42 species of fish were taken in the waters of the state. Of these the most important were shad, menhaden, alewives, squeteague, or sea trout, and croaker. The combined value reported for these five species was $1,344,000, or 81 per cent of the value of all fish caught.

Products, by fishing grounds.—The products of the Chesapeake Bay district are given in detail, by species and by apparatus of capture, in Table 2, on page 257; and Table 3, on page 258, gives similar statistics for the Atlantic Ocean district. In the following tabular statement the total value of products is distributed according to species arranged in order of value, for the state as a whole and for each district and each class of fisheries:

SPECIES.	VALUE OF PRODUCTS: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Chesapeake Bay district.	Atlantic Ocean district.	Vessel fisheries.	Shore and boat fisheries.
Total	$4,716,000	$4,046,000	$670,000	$1,009,000	$3,707,000
Fish	1,658,000	1,486,000	173,000	490,000	1,168,000
Shad	486,000	481,000	4,600	34,000	452,000
Menhaden	429,000	429,000	100	419,000	10,000
Alewives, or river herring	171,000	168,000	3,200	22,000	149,000
Squeteague, or sea trout	139,000	100,000	39,000	2,000	137,000
Croaker	119,000	84,000	35,000	1,800	117,000
Sturgeon, caviar, and sturgeon eggs	49,000	20,000	29,000	100	49,000
Striped bass	46,000	46,000	200	2,300	44,000
Catfish	31,000	28,000	2,900	800	31,000
Perch, white	27,000	24,000	2,900	400	26,000
Spanish mackerel	25,000	9,100	16,000	(1)	25,000
Butterfish	21,000	17,000	4,400	300	21,000
All other	114,000	79,000	35,000	8,100	106,000
Oysters	2,348,000	2,016,000	332,000	439,000	1,909,000
Market	1,967,000	1,693,000	274,000	384,000	1,583,000
Seed	381,000	323,000	58,000	55,000	326,000
Clams	380,000	217,000	163,000	6,000	374,000
Crabs	326,000	326,000	.....	75,000	252,000
All other	4,500	1,600	2,900	.....	4,500

[1] Less than $100.

The combined catch of the fisheries of Chesapeake Bay and its tributary waters was 301,596,000 pounds, valued at $4,046,000, or 97 per cent of the quantity and 86 per cent of the value of the fishery products of the state. The catch of fish proper reported for this district furnished 36 per cent of the total value for the district, and the yield of oysters, the most valuable product, 50 per cent. Next to oysters the shad catch had the largest value, while the menhaden, crab, clam, and herring products also contributed largely to the total value.

The catch of the Atlantic Ocean district, which weighed 10,918,000 pounds and was valued at $670,000, represented only 3 per cent of the total quantity and 14 per cent of the total value of all fishery products of the state. Of the total value of products reported for this district, oysters contributed 50 per cent and clams 24 per cent. Of fish proper, which furnished 26 per cent of the value returned for the district, the principal species taken were squeteague, croaker, and sturgeon. Spanish mackerel ranked next, with a value of $16,000, which constituted 64 per cent of the value of all Spanish mackerel taken in the waters of the state.

Products, by class of fisheries.—The products of the vessel fisheries are given in detail, by species and by apparatus of capture, in Table 4, on page 258, and the products of the shore and boat fisheries are similarly shown in Table 7, on page 260. As already indicated, the table above shows the distribution, by species arranged in order of value, of the total value of products reported for the state and for each class of fisheries.

The catch of the vessel fisheries aggregated 207,070,000 pounds, valued at $1,009,000, or 66 per cent of the total quantity of fishery products taken in the state and 21 per cent of their total value. Oysters, menhaden, and crabs furnished the largest values. Of the different species of fish proper reported, menhaden represented 90 per cent of the quantity caught in the vessel fisheries.

The combined catch of the shore and boat fisheries of the state aggregated 105,444,000 pounds, having a value of $3,707,000, or 34 per cent and 79 per cent, respectively, of the total quantity and value of all the fishery products of the state. Oysters, shad, and clams were the three most important products of this class of fisheries.

The value of fish constituted 49 per cent of the total value of the products taken in the vessel fisheries and 32 per cent of that of products taken in the shore and boat fisheries. Oysters contributed 44 per cent of the value of the products of the former class of fisheries and 51 per cent of the value of the products of the latter.

Tables 5 and 8, on pages 259 and 261 show, by species and by apparatus of capture, the products, respectively,

of the vessel and the shore and boat fisheries of the Chesapeake Bay district, while corresponding statistics for the Atlantic Ocean district are given in Tables 6 and 9, on pages 259 and 262. The following tabular statement gives the distribution, by district and class of fisheries, of the total quantity and value of products reported for the state:

DISTRICT AND CLASS OF FISHERIES.	FISHERY PRODUCTS: 1908.			
	Quantity.		Value.	
	Pounds.	Per cent distribution.	Amount.	Per cent distribution.
Total	312,515,000	100	$4,716,000	100
Chesapeake Bay district	301,596,000	97	4,046,000	86
Vessel fisheries	206,537,000	66	985,000	21
Shore and boat fisheries	95,060,000	30	3,061,000	65
Atlantic Ocean district	10,918,000	3	670,000	14
Vessel fisheries	534,000	(1)	24,000	1
Shore and boat fisheries	10,385,000	3	646,000	14

[1] Less than 1 per cent.

In both classes of fisheries of the Chesapeake Bay district, oysters contributed the largest value, though nine-tenths of the weight of the product taken in the vessel fisheries consisted of menhaden. More than 90 per cent of the shad product of Virginia was caught in the shore and boat fisheries of Chesapeake Bay and its tributaries.

The only products of the vessel fisheries of the Atlantic Ocean district were oysters, clams, bluefish, sea bass, squeteague, and scup.

Products, by apparatus of capture.—The following tabular statement distributes, by apparatus of capture arranged in the order of the value of the catch, the total value of products reported for the state as a whole and for each district:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Chesapeake Bay district.	Atlantic Ocean district.	Vessel fisheries.	Shore and boat fisheries.
Total	$4,716,000	$4,046,000	$670,000	$1,009,000	$3,707,000
Dredges, tongs, etc.	2,781,000	2,379,000	403,000	511,000	2,270,000
Pound and trap nets	833,000	732,000	101,000	58,000	776,000
Seines	531,000	508,000	23,000	427,000	103,000
Gillnets	205,000	170,000	35,000	500	204,000
Lines	190,000	179,000	11,000	6,400	184,000
Fyke and hoop nets	47,000	44,000	2,500		47,000
Dip nets	29,000	29,000			29,000
All other	99,000	4,500	95,000	5,500	94,000

The catch made with dredges, tongs, and rakes, representing mainly the yield of oysters, but also that of clams and crabs, contributed a larger percentage of the value of the products than the catch made with any other class of apparatus. The value of the products taken in pound and trap nets made this class of apparatus second in importance, these nets being used extensively in both the Atlantic Ocean district and the Chesapeake Bay district, and in the capture of nearly all the species of fish reported. They were employed especially in taking shad and herring, and contributed one-fifth of the total value of the products of the shore and boat fisheries. Seines ranked third in the value of products taken. They were used mostly in the vessel fisheries, 80 per cent of the total value of products reported for them being credited to this class of fisheries. Gill nets and lines were used very little in the vessel fisheries, while fyke and hoop nets were used only in the shore and boat fisheries. Dip nets were employed only in the shore and boat fisheries of Chesapeake Bay. The greater part of the value of the catch made by means of dip nets represents the value of soft crabs caught, while hard crabs contributed most of the value of the catch by lines.

Oysters.—In 1908 the total yield of oysters from Virginia beds was 5,075,000 bushels, valued at $2,348,000, or about 50 per cent of the value of all the fishery products of the state. The product was distributed by kind and area, as follows:

KIND AND SOURCE.	OYSTER PRODUCT: 1908.			
	Quantity.		Value.	
	Bushels.	Per cent distribution.	Amount.	Per cent distribution.
Total	5,075,000	100	$2,348,000	100
Market oysters	3,672,000	72	1,967,000	84
From public areas	1,369,000	27	645,000	27
From private areas	2,303,000	45	1,322,000	56
Seed oysters	1,403,000	28	381,000	16
From public areas	1,322,000	26	357,000	15
From private areas	81,000	2	24,000	1

The oyster product comprised 3,672,000 bushels of market oysters, valued at $1,967,000, and 1,403,000 bushels of seed oysters, valued at $381,000. All the seed oysters reported, with the exception of 81,000 bushels, were taken from public areas, while 63 per cent of the market oysters were from private areas.

The cultivation of oysters has become an important part of the oyster industry of Virginia. Public reefs have become yearly less productive, and there has been a tendency to enlarge the area available for private beds. As yet the cultivated oysters of Virginia have not brought as high a price per bushel as those from New York and Connecticut, although the natural conditions of the Virginia waters are ideal for cultivation and the state laws afford fairly good protection to private oyster culture.

Though the value of oysters from private areas formed 57 per cent of the total value of the oyster product, the quantity from these areas was less than that from public areas. The average price of market oysters per bushel was 57 cents for those from private areas and 47 cents for those from public areas. The average price of seed oysters was 27 cents per bushel.

The following tabular statement, giving the quantity, value, and average price per bushel of Virginia oysters for several years, indicates that the product has been decreasing in quantity since 1901:

YEAR.	OYSTER PRODUCT.		
	Quantity (bushels).	Value.	
		Amount.	Average per bushel.
1908	5,075,000	$2,348,000	$0.46
1904	7,612,000	3,460,000	0.45
1901	7,885,000	2,923,000	0.37
1897	7,024,000	2,042,000	0.29
1891	6,162,000	2,524,000	0.41
1880	6,857,000	2,218,000	0.32

Tonging was the more usual method of fishing for oysters, but dredges also were used to some extent. Though oyster fishing was carried on extensively in the Atlantic Ocean district by means of vessels and boats, the value of the product obtained from the shore and boat fisheries of Chesapeake Bay and its tributary waters was much greater than that of the entire oyster product of the former district.

Shad.—Shad ranked next to oysters in value and was the most important species of fish caught. The Virginia catch was the largest in the country in 1908, weighing 7,314,000 pounds and being valued at $486,000, or about one-fourth of the entire quantity and value of the shad caught in the waters of the United States. Its value formed 10 per cent of the value of all fishery products of the state. The catch in 1908 was slightly smaller in quantity but greater in value than that in 1904, which was 7,420,000 pounds, valued at $440,000.

The following tabular statement shows the quantity and value of the catch of shad for certain years from 1880 to 1908:

YEAR.	SHAD PRODUCT.	
	Quantity (pounds).	Value.
1908	7,314,000	$486,000
1904	7,420,000	440,000
1897	11,529,000	394,000
1891	6,498,000	207,000
1880	3,172,000	134,000

According to the reports of the fishermen, the decrease of shad in the rivers tributary to Chesapeake Bay, shown in previous reports of the Bureau of Fisheries, continues. This fish is caught mainly by means of pound nets and gill nets in the shore and boat fisheries of Chesapeake Bay and its tributary waters. Less than 1 per cent of the total value of shad represents product taken in the Atlantic coast fisheries.

Menhaden.—The menhaden product of Virginia amounted to 190,089,000 pounds, valued at $429,000, and represented nearly half of the total weight and value of all the menhaden caught in the United States. The catch was considerably less than in 1904, but was larger than in 1897 or any previous year for which statistics are available, as is shown by the following tabular statement:

YEAR.	MENHADEN PRODUCT	
	Quantity (pounds).	Value.
1908	190,089,000	$429,000
1904	247,919,000	515,000
1897	178,656,000	235,000
1891	105,980,000	198,000
1880	88,214,000	304,000

These fish run in large schools and are caught principally by means of seines. Practically the entire catch was from the Chesapeake Bay district, chiefly from its vessel fisheries.

Clams.—The value of the hard-clam product of Virginia exceeded that reported for any other state, though the New Jersey product exceeded the Virginia product in quantity. In 1908 the Virginia yield was 246,000 bushels, valued at $380,000. Up to 1901 the yield was increasing regularly; but since that year, though the value has continued to increase, there has been some fluctuation in the quantity. The following tabular statement gives statistics of the product for certain years from 1890 to 1908:

YEAR.	HARD-CLAM PRODUCT.	
	Quantity (bushels).	Value.
1908	246,000	$380,000
1904	207,000	221,000
1901	221,000	135,000
1897	105,000	66,000
1890	69,000	37,000

Clams are essentially a product of the shore and boat fisheries. Fifty-seven per cent of the value of the Virginia catch represents the value of clams taken in the Chesapeake Bay district.

Crabs.—Though ranking only fifth with respect to value among the fishery products of Virginia, the total crab product of the state surpassed in value that of any other state. Virginia ranked first in the yield of hard crabs and second only to Maryland in the yield of soft crabs. In 1908 the total crab product, all of which came from Chesapeake Bay and its tributary waters, was $25,083,000 pounds, valued at $326,000. This formed nearly 50 per cent of the total quantity and its value more than one-third of the total value of all hard and soft crabs taken in the country. The industry has grown steadily since 1890; the product increased 129 per cent in value from 1901 to 1904, and 104 per cent in quantity and 19 per cent in value from 1904 to 1908. Statistics as to the yield in earlier years are given in the following tabular statement:

YEAR.	CRAB PRODUCT.	
	Quantity (pounds).	Value.
1908	25,083,000	$326,000
1904	12,267,000	272,000
1901	7,402,000	119,000
1897	6,409,000	68,000
1880	3,025,000	54,000

Alewives.—The alewife product has long been important among the fishery products of Virginia, and both the quantity and value increased greatly from 1904 to 1908. The catch in 1908, amounting to 37,885,000 pounds, valued at $171,000, was greater in both quantity and value than that reported for any other state, and furnished 42 per cent of the weight and nearly 30 per cent of the value of the total alewife product of the United States. The increase in the quantity of the catch since 1904 amounted to almost 160 per cent, and that in the value to 88 per cent.

The following tabular statement gives statistics for certain years from 1880 to 1908:

YEAR.	ALEWIFE PRODUCT.	
	Quantity (pounds).	Value.
1908	37,885,000	$171,000
1904	14,604,000	91,000
1897	13,690,000	71,000
1891	11,013,000	94,000
1880	6,925,000	76,000

TABLE 1.—VIRGINIA—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Seines.		Gill nets.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	312,515,000	$4,716,000	52,560,000	$833,000	191,633,000	$531,000	3,489,000	$205,000	15,106,000	$190,000	1,279,000	$47,000	48,447,000	$2,910,000
Fish:														
Alewives	37,885,000	171,000	32,889,000	138,000	3,736,000	20,000	1,105,000	9,200			153,000	3,100	1,000	100
Black bass	71,000	6,900	400	(2)	62,000	6,200	(2)	(2)	2,700	200	5,700	500		
Bluefish	242,000	14,000	68,000	4,600	40,000	3,400	29,000	1,500	100,000	4,700	5,200	100		
Butterfish	725,000	21,000	685,000	19,000	20,000	1,400	16,000	300			4,500	100		
Carp, German	286,000	8,000	22,000	1,200	236,000	5,700	12,000	500			16,000	600		
Catfish	738,000	31,000	234,000	11,000	162,000	7,000	56,000	2,700	47,000	1,900	240,000	8,800		
Crevallé	80,000	1,800	80,000	1,800										
Croaker	4,839,000	119,000	4,224,000	103,000	76,000	2,100	61,000	1,800	366,000	8,800	111,000	2,900		
Drum, salt-water	78,000	1,500	61,000	900					15,000	600	2,800	(2)		
Eels	87,000	4,200	25,000	1,400	5,000	200			5,200	300	5,000	200	48,000	2,100
Flounders	189,000	7,400	153,000	5,900	16,000	600	2,800	100	11,000	400	5,300	300		
Hickory shad	233,000	6,200	81,000	2,500	84,000	2,100	66,000	1,600			2,500	100		
Hogfish	109,000	11,000	46,000	6,800	11,000	1,600			52,000	2,600				
Kingfish, or whiting	95,000	4,800	70,000	3,700	11,000	500			7,200	400	7,000	200		
Menhaden	190,089,000	429,000	3,884,000	10,000	186,205,000	419,000								
Minnows	2,200	900			2,200	900								
Moonfish	10,000	400	10,000	400										
Mullet	264,050	9,400	57,000	2,200	57,000	1,300	148,000	5,100	13,000	500	3,000	100	5,800	200
Perch, white	446,000	27,000	155,000	9,200	107,000	6,300	82,000	5,400	16,000	1,000	85,000	5,000	100	(2)
Perch, yellow	118,000	5,500	45,000	2,100	40,000	1,800					32,000	1,600		
Pike and pickerel	12,000	1,000	600	(2)	11,000	900	200	(2)			300	(2)		
Pompano	20,000	3,100	18,000	2,800			1,000	200	400	100	200	(2)		
Scup	65,000	3,500	45,000	2,600	17,000	800			2,000	100	1,200	100		
Sea bass	63,000	2,900			15,000	900			48,000	2,000				
Shad	7,314,000	486,000	5,474,000	341,000	208,000	15,000	1,597,000	127,000			35,000	3,200		
Sheepshead	82,000	5,000	82,000	4,900					400	(2)				
Spanish mackerel	275,000	25,000	220,000	19,000	200	(2)	45,000	4,500			11,000	1,200		
Spot	192,000	15,000	78,000	6,300	44,000	4,200	5,600	500	62,000	3,500	2,700	100		
Squeteague, or sea trout	4,491,000	139,000	3,463,000	103,000	288,000	15,000	61,000	2,700	268,000	11,000	411,000	7,600		
Striped bass	504,000	46,000	160,000	14,000	141,000	13,000	62,000	5,900	33,000	3,500	107,000	10,000	100	(2)
Sturgeon, caviar, and sturgeon eggs	295,000	49,000	65,000	13,000	1,100	300	138,000	36,000			300	(2)		
Suckers	10,000	500									10,000	500		
Sunfish	58,000	1,200	400	(2)	55,000	1,100					2,500	100		
All other	12,000	500	7,200	400	500	(2)	200	(2)	500	(2)	3,100	100		
Frogs	3,000	700											3,000	700
Crabs, hard	23,001,000	239,000	140,000	700					14,049,000	148,000	16,000	200	8,796,000	90,000
Crabs, soft	2,082,000	87,000							2,300	100			2,080,000	86,000
Terrapin	400	400											400	400
Turtles	24,000	500	18,000	350			600	(2)	6,000	200				
Clams, hard	[4] 1,969,000	380,000											[4] 1,969,000	380,000
Oysters, market, from public areas	[5] 9,581,000	645,000											[5] 9,581,000	645,000
Oysters, market, from private areas	[6] 16,124,000	1,322,000											[6] 16,124,000	1,322,000
Oysters, seed, from public areas	[7] 9,252,000	357,000											[7] 9,252,000	357,000
Oysters, seed, from private areas	[8] 568,000	24,000											[8] 568,000	24,000
Scallops	[9] 19,000	2,400											[9] 19,000	2,400
Skins—mink, muskrat, and otter	[10] 300	400											[10] 300	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 45,954,000 pounds, valued at $2,781,000; dip nets, 828,000 pounds, valued at $29,000; eel pots, 48,000 pounds, valued at $2,100; traps, 300 pounds, valued at $400; and minor apparatus, 1,617,000 pounds, valued at $97,000.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 246,000 bushels.
[5] 1,360,000 bushels.
[6] 2,393,000 bushels.
[7] 1,322,000 bushels.
[8] 81,000 bushels.
[9] 2,300 gallons.
[10] 1,000 skins.

TABLE 2.—VIRGINIA—FISHERY PRODUCTS OF CHESAPEAKE BAY DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Seines.		Lines.		Gill nets.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	301,596,000	$4,046,000	49,769,000	$732,000	191,109,000	$508,000	14,836,000	$179,000	3,284,000	$170,000	1,174,000	$44,000	41,425,000	$2,413,000
Fish:														
Alewives	37,713,000	168,000	32,758,000	136,000	3,722,000	20,000			1,105,000	9,200	127,000	2,400	1,000	100
Black bass	14,000	1,100	400	(2)	7,000	600	2,700	200	(2)	(2)	3,700	300		
Bluefish	204,000	11,000	56,000	3,700	20,000	1,800	94,000	4,200	29,000	1,500	5,200	100		
Butterfish	600,000	17,000	560,000	15,000	20,000	1,400					16,000	300	4,500	100
Carp, German	192,000	5,200	22,000	1,200	145,000	3,000					12,000	500	12,000	500
Catfish	641,000	28,000	234,000	11,000	71,000	4,300	47,000	1,900	56,000	2,700	234,000	8,600		
Crevallé	80,000	1,800	80,000	1,800										
Croaker	3,437,000	84,000	2,897,000	70,000	76,000	2,100	292,000	7,300	60,000	1,800	111,000	2,900		
Drum, salt-water	31,000	600	31,000	600			100	(2)						
Eels	84,000	4,100	25,000	1,400	5,000	200	5,200	300			5,000	200	44,000	2,000
Flounders	88,000	3,000	78,000	2,500	2,500	100					2,800	100	5,300	300
Hickory shad	233,000	6,200	81,000	2,500	84,000	2,100			66,000	1,600	2,500	100		
Hogfish	109,000	11,000	46,000	6,800	11,000	1,600	52,000	2,600						
Kingfish	24,000	1,100	12,000	500	5,800	200							7,000	200
Menhaden	190,049,000	429,000	3,844,000	10,000	186,205,000	419,000								
Minnows	2,200	900			2,200	900								
Moonfish	10,000	400	10,000	400										
Mullet	181,000	6,400	36,000	1,300	24,000	900	13,000	500	99,000	3,300	3,000	100	5,800	200
Perch, white	392,000	24,000	133,000	7,900	78,000	4,800	16,000	1,000	82,000	5,400	83,000	4,900	100	(2)
Perch, yellow	161,000	4,800	45,000	2,100	24,000	1,100					31,000	1,300		
Pike and pickerel	3,800	300	600	(2)	3,000	300			200	(2)	100	(2)		
Pompano	19,000	3,000	18,000	2,800			400	100	1,000	200	200	(2)		
Scup	44,000	2,500	41,000	2,300	2,000	200					1,000	(2)		
Sea bass	42,000	1,700					42,000	1,700						
Shad	7,267,000	481,000	5,435,000	337,000	203,000	14,000			1,597,000	127,000	32,000	2,900		
Sheepshead	1,900	200	1,500	100			400	(2)						
Spanish mackerel	99,000	9,100	88,000	7,900	300	(2)					11,000	1,200		
Spot	154,000	12,000	48,000	4,300	42,000	4,100	56,000	3,400	5,600	500	2,700	100		
Squeteague	3,557,000	100,000	2,809,000	75,000	212,000	12,000	125,000	3,600	56,000	2,600	355,000	6,800		
Striped bass	502,000	46,000	158,000	14,000	141,000	13,000	33,000	3,500	62,000	5,900	107,000	10,000	100	(2)
Sturgeon	85,000	9,400	54,000	6,300	1,000	100					30,000	3,000	300	(2)
Caviar and sturgeon eggs	8,900	11,000	5,100	5,900	100	200			3,700	4,600				
Suckers	10,000	500									10,000	500		
All other	12,000	500	7,600	400	500	(2)					3,100	100		
Frogs	3,000	700											3,000	700
Crabs, hard	23,001,000	239,000	140,000	700			14,049,000	148,000			16,000	200	8,796,000	90,000
Crabs, soft	2,082,000	87,000					2,300	100					2,080,000	86,000
Turtles	24,000	500	18,000	300			6,000	200	600	(2)				
Clams, hard	[4] 1,113,000	217,000											[4] 1,113,000	217,000
Oysters, market, from public areas	[5] 8,723,000	591,000											[5] 8,723,000	591,000
Oysters, market, from private areas	[6] 12,833,000	1,102,000											[6] 12,833,000	1,102,000
Oysters, seed, from public areas	[7] 7,258,000	299,000											[7] 7,258,000	299,000
Oysters, seed, from private areas	[8] 568,000	24,000											[8] 568,000	24,000
Skins—mink, muskrat, and otter	[9] 300	400											[9] 300	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 40,527,000 pounds, valued at $2,379,000; dip nets, 828,000 pounds, valued at $29,000; eel pots, 44,000 pounds, valued at $2,000; mink, muskrat, and otter traps, 300 pounds, valued at $400; and minor apparatus, 26,000 pounds, valued at $2,100.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 139,000 bushels.
[5] 1,246,000 bushels.
[6] 1,833,000 bushels.
[7] 1,037,000 bushels.
[8] 81,000 bushels.
[9] 1,000 skins.

TABLE 3.—VIRGINIA—FISHERY PRODUCTS OF ATLANTIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Pound and trap nets.		Seines.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,918,000	$670,000	2,791,000	$101,000	524,000	$23,000	270,000	$11,000	106,000	$2,500	7,226,000	$532,000
Fish:												
Alewives	172,000	3,200	131,000	2,300	14,000	200			26,000	600		
Black bass	58,000	5,800			56,000	5,600			2,000	200		
Bluefish	38,000	3,000	12,000	900	20,000	1,600	6,000	500				
Butterfish	125,000	4,400	125,000	4,400								
Carp, German	94,000	2,800			90,000	2,700			4,000	100		
Catfish	97,000	2,900			91,000	2,700			6,000	200		
Croaker	1,402,000	35,000	1,327,000	33,000			74,000	1,500			1,000	(1)
Drum, salt-water	48,000	900	30,000	300			15,000	600	2,800	(1)		
Eels	3,300	100									3,300	100
Flounders	100,000	4,300	76,000	3,400	14,000	500	11,000	400				
Kingfish	70,000	3,800	58,000	3,200	5,000	200	7,200	400				
Mullet	83,000	3,000	21,000	800	13,000	400	200	(1)			49,000	1,800
Perch, white	54,000	2,900	22,000	1,400	29,000	1,500	200	(1)	2,100	100		
Perch, yellow	17,000	700			16,000	600			1,000	(1)		
Pike and pickerel	8,500	600			8,300	600			200	(1)		
Scup	22,000	900	4,500	200	15,000	600	2,000	100	200	(1)		
Sea bass	21,000	1,300			15,000	900	6,000	400				
Shad	48,000	4,600	40,000	4,000	5,000	400			3,000	300		
Sheepshead	80,000	4,800	80,000	4,800								
Spanish mackerel	177,000	16,000	132,000	11,000							45,000	4,500
Spot	38,000	2,200	36,000	2,000	1,500	(1)	6,000	100				
Squeteague	934,000	39,000	654,000	28,000	76,000	3,300	143,000	7,300	56,000	800	5,000	200
Striped bass	2,000	200	2,000	200								
Sturgeon	98,000	13,000	5,500	600							93,000	12,000
Caviar and sturgeon eggs	13,000	17,000	500	500							12,000	16,000
Sunfish	58,000	1,200			55,000	1,100			2,500	100		
All other	41,000	200	40,000	200							200	(1)
Terrapin	400	400									400	400
Clams, hard	[2] 856,000	163,000									[2] 856,000	163,000
Oysters, market, from public areas	[4] 858,000	54,000									[4] 858,000	54,000
Oysters, market, from private areas	[5] 3,291,000	220,000									[5] 3,291,000	220,000
Oysters, seed, from public areas	[6] 1,994,000	58,000									[6] 1,994,000	58,000
Scallops	[7] 19,000	2,400									[7] 19,000	2,400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 5,428,000 pounds, valued at $403,000; gill nets, 205,000 pounds, valued at $35,000; eel pots, 3,300 pounds, valued at $100; and minor apparatus, 1,591,000 pounds, valued at $85,000.
[2] Less than $100. [3] 107,000 bushels. [4] 123,000 bushels. [5] 470,000 bushels. [6] 285,000 bushels. [7] 2,300 gallons.

TABLE 4.—VIRGINIA—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Pound and trap nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	207,070,000	$1,009,000	186,361,000	$427,000	7,016,000	$58,000	321,000	$6,400	13,371,000	$517,000
Fish:										
Alewives	6,358,000	22,000			6,358,000	22,000				
Bluefish	37,000	2,900	25,000	2,000	100	(2)	12,000	800		
Butterfish	7,500	300			7,500	300				
Carp, German	6,000	300	6,000	300						
Catfish	22,000	800	9,000	400	13,000	400				
Croaker	93,000	1,800			53,000	1,000	40,000	800		
Eels	8,300	400	5,000	200					3,300	200
Hogfish	900	100					900	100		
Menhaden	186,205,000	419,000	186,205,000	419,000						
Mullet	3,000	200	3,000	200						
Perch, white	8,300	400	7,000	400	1,300	100	(2)	(2)		
Perch, yellow	9,000	400	9,000	400						
Scup	17,000	700	15,000	600			2,000	100		
Sea bass	63,000	2,900	15,000	900			48,000	2,000		
Shad	588,000	34,000			580,000	34,000			8,500	400
Spot	3,000	300					3,000	300		
Squeteague	58,000	2,000	38,000	1,500	1,500	100	18,000	500		
Striped bass	28,000	2,300	24,000	2,000	2,000	200	500	100	1,000	100
Caviar and sturgeon eggs	100	100			100	100				
All other	500	(2)			500	(2)				
Crabs, hard	6,722,000	70,000					196,000	1,700	6,526,000	68,000
Crabs, soft	115,000	3,600					400	(2)	114,000	3,600
Clams, hard	[3] 42,000	6,000							[3] 42,000	6,000
Oysters, market, from public areas	[4] 1,661,000	113,000							[4] 1,661,000	113,000
Oysters, market, from private areas	[5] 3,596,000	271,000							[5] 3,596,000	271,000
Oysters, seed, from public areas	[6] 1,313,000	51,000							[6] 1,313,000	51,000
Oysters, seed, from private areas	[7] 105,000	4,000							[7] 105,000	4,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 13,171,000 pounds, valued at $511,000; gill nets, 9,500 pounds, valued at $500; eel pots, 3,300 pounds valued at $200; and minor apparatus, 188,000 pounds, valued at $5,400.
[2] Less than $100. [3] Less than 100 pounds. [4] 5,300 bushels. [5] 237,000 bushels. [6] 514,000 bushels. [7] 188,000 bushels. 15,000 bushels.

TABLE 5.—VIRGINIA—PRODUCTS OF VESSEL FISHERIES OF CHESAPEAKE BAY DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Seines.		Pound and trap nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	206,537,000	$985,000	186,286,000	$424,000	7,016,000	$58,000	301,000	$5,300	12,933,000	$498,000
Fish:										
Alewives	6,358,000	22,000			6,358,000	22,000				
Bluefish	11,000	800	5,000	400	100	(2)	6,000	400		
Butterfish	7,500	300			7,500	300				
Carp, German	6,000	300	6,000	300						
Catfish	22,000	800	9,000	400	13,000	400				
Croaker	93,000	1,800			53,000	1,000	40,000	800		
Eels	8,300	400	5,000	200					3,300	200
Hogfish	900	100					900	100		
Menhaden	186,205,000	419,000	186,205,000	419,000						
Mullet	3,000	200	3,000	200						
Perch, white	8,300	400	7,000	400	1,300	100	(2)	(2)		
Perch, yellow	9,000	400	9,000	400						
Sea bass	42,000	1,700					42,000	1,700		
Shad	588,000	34,000			580,000	34,000			8,500	400
Spot	3,000	300					3,000	300		
Squeteague, or sea trout	27,000	1,100	15,000	700	1,500	100	12,000	300		
Striped bass	28,000	2,300	24,000	2,000	2,000	200	500	100	1,000	100
Sturgeon, caviar, and sturgeon eggs	400	100			400	100				
All other	200	(2)			200	(2)				
Crabs, hard	6,722,000	70,000					196,000	1,700	6,526,000	68,000
Crabs, soft	115,000	3,600					400	(2)	114,000	3,600
Clams, hard	[3] 30,000	3,800							[3] 30,000	3,800
Oysters, market, from public areas	[4] 1,653,000	112,000							[4] 1,653,000	112,000
Oysters, market, from private areas	[5] 3,451,000	263,000							[5] 3,451,000	263,000
Oysters, seed, from public areas	[6] 1,041,000	43,000							[6] 1,041,000	43,000
Oysters, seed, from private areas	[7] 105,000	4,000							[7] 105,000	4,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 12,913,000 pounds, valued at $497,000; gill nets, 9,500 pounds, valued at $500; eel pots, 3,300 pounds, valued at $200; and minor apparatus, 7,000 pounds, valued at $300.
[2] Less than $100. [3] Less than 100 pounds. [4] 3,800 bushels. [5] 236,000 bushels. [6] 493,000 bushels. [7] 149,000 bushels. [8] 15,000 bushels.

TABLE 6.—VIRGINIA—PRODUCTS OF VESSEL FISHERIES OF ATLANTIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Dredges, tongs, etc.		Seines.		Lines.		Minor apparatus.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	534,000	$24,000	258,000	$14,000	75,000	$3,800	20,000	$1,100	181,000	$5,200
Fish:										
Bluefish	26,000	2,100			20,000	1,600	6,000	500		
Scup	17,000	700			15,000	600	2,000	100		
Sea bass	21,000	1,300			15,000	900	6,000	400		
Squeteague	31,000	900			25,000	800	6,000	200		
Clams, hard	[1] 12,000	2,200								
Oysters, market, from public areas	[2] 8,800	500								
Oysters, market, from private areas	[3] 146,000	8,300								
Oysters, seed, from public areas	[4] 272,000	8,300							181,000	5,200

[1] 1,500 bushels. [2] 1,200 bushels. [3] 21,000 bushels. [4] 39,000 bushels.

TABLE 7.—VIRGINIA—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Lines.		Seines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	105,444,000	$3,707,000	45,543,000	$776,000	3,479,000	$204,000	14,785,000	$184,000	5,272,000	$103,000	1,279,000	$47,000	35,085,000	$2,393,000
Fish:														
Alewives	31,526,000	149,000	26,531,000	117,000	1,105,000	9,200	.....	.....	3,736,000	20,000	153,000	3,100	1,000	100
Black bass	71,000	6,900	400	(2)	(2)	(2)	2,700	200	62,000	6,200	5,700	500	.....	.....
Bluefish	205,000	11,000	68,000	4,400	29,000	1,500	88,000	3,800	15,000	1,300	5,200	100	.....	.....
Butterfish	718,000	21,000	677,000	19,000	16,000	300	.....	.....	20,000	1,400	4,500	100	.....	.....
Carp, German	280,000	7,700	22,000	1,200	12,000	500	.....	.....	230,000	5,400	16,000	600	.....	.....
Catfish	716,000	31,000	221,000	11,000	56,000	2,700	47,000	1,900	153,000	6,700	240,000	8,800	.....	.....
Crevalle	80,000	1,800	80,000	1,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Croaker	4,745,000	117,000	4,171,000	102,000	61,000	1,800	325,000	7,900	76,000	2,100	111,000	2,900	.....	.....
Drum, salt-water	78,000	1,500	61,000	900	.....	.....	15,000	600	.....	.....	2,800	(2)	.....	.....
Eels	79,000	3,800	25,000	1,400	.....	.....	5,200	300	.....	.....	5,000	200	44,000	1,900
Flounders	188,000	7,300	153,000	5,900	2,800	100	11,000	400	16,000	600	5,300	300	.....	.....
Hickory shad	223,000	6,200	81,000	2,500	66,000	1,600	.....	.....	84,000	2,100	2,500	100	.....	.....
Hogfish	108,000	11,000	46,000	6,800	.....	.....	51,000	2,500	11,000	1,600	.....	.....	.....	.....
Kingfish	95,000	4,800	70,000	3,700	.....	.....	7,200	400	11,000	500	7,000	200	.....	.....
Menhaden	3,884,000	10,000	3,884,000	10,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minnows	2,200	900	.....	.....	.....	.....	.....	.....	2,200	900	.....	.....	.....	.....
Moonfish	10,000	400	10,000	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mullet	261,000	9,200	57,000	2,200	148,000	5,100	13,000	500	34,000	1,100	3,000	100	5,800	200
Perch, white	438,000	26,000	154,000	9,200	82,000	5,400	16,000	1,000	100,000	5,900	85,000	5,000	100	(2)
Perch, yellow	109,000	5,100	45,000	2,100	.....	.....	.....	.....	31,000	1,400	32,000	1,600	.....	.....
Pike and pickerel	12,000	1,000	600	(2)	200	(2)	.....	.....	11,000	900	300	(2)	.....	.....
Pompano	20,000	3,100	18,000	2,800	1,000	200	400	100	.....	.....	200	(2)	.....	.....
Scup	48,000	2,800	45,000	2,600	.....	.....	.....	.....	2,000	200	1,200	100	.....	.....
Shad	6,726,000	452,000	4,895,000	307,000	1,588,000	127,000	.....	.....	208,000	15,000	35,000	3,200	.....	.....
Sheepshead	82,000	5,000	82,000	4,900	.....	.....	400	(2)	.....	.....	.....	.....	.....	.....
Spanish mackerel	276,000	25,000	220,000	19,000	45,000	4,500	.....	.....	200	(2)	11,000	1,200	.....	.....
Spot	189,000	14,000	78,000	6,300	5,600	500	59,000	3,200	44,000	4,200	2,700	100	.....	.....
Squeteague	4,433,000	157,000	3,461,000	103,000	61,000	2,700	250,000	10,000	250,000	14,000	411,000	7,600	.....	.....
Striped bass	476,000	44,000	158,000	14,000	61,000	5,800	33,000	3,400	117,000	11,000	107,000	10,000	100	(2)
Sturgeon	183,000	22,000	60,000	6,800	122,000	15,000	.....	.....	1,000	100	300	(2)	.....	.....
Caviar and sturgeon eggs	22,000	27,000	5,500	6,300	16,000	21,000	.....	.....	100	200	.....	.....	.....	.....
Suckers	10,000	500	.....	.....	.....	.....	.....	.....	.....	.....	10,000	500	.....	.....
Sunfish	38,000	1,200	400	(2)	.....	.....	.....	.....	55,000	1,100	2,500	100	.....	.....
All other	12,000	500	7,200	400	200	(2)	500	(2)	500	(2)	3,100	100	.....	.....
Frogs	3,000	700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	700
Crabs, hard	16,279,000	169,000	140,000	700	.....	.....	13,853,000	147,000	.....	.....	16,000	200	2,270,000	22,000
Crabs, soft	1,967,000	83,000	.....	.....	.....	.....	1,900	100	.....	.....	.....	.....	1,965,000	83,000
Terrapin	500	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500	500
Turtles	24,000	500	18,000	300	600	(2)	6,000	200	.....	.....	.....	.....	.....	.....
Clams, hard	[4] 1,927,000	374,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 1,927,000	374,000
Oysters, market, from public areas	[5] 7,920,000	532,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 7,920,000	532,000
Oysters, market, from private areas	[6] 12,528,000	1,050,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 12,528,000	1,050,000
Oysters, seed, from public areas	[7] 7,939,000	306,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 7,939,000	306,000
Oysters, seed, from private areas	[8] 463,000	20,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 463,000	20,000
Scallops	[9] 19,000	2,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9] 19,000	2,400
Skins—mink, muskrat, and otter	[10] 300	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[10] 300	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 32,783,000 pounds, valued at $2,270,000; dip nets, 828,000 pounds, valued at $29,000; eel pots, 44,000 pounds, valued at $1,900; mink, muskrat, and otter traps, 300 pounds, valued at $400; and minor apparatus, 1,429,000 pounds, valued at $92,000.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 241,000 bushels.
[5] 1,131,000 bushels.
[6] 1,750,000 bushels.
[7] 1,134,000 bushels.
[8] 66,000 bushels.
[9] 2,300 gallons.
[10] 1,000 skins.

TABLE 8.—VIRGINIA—PRODUCTS OF SHORE AND BOAT FISHERIES OF CHESAPEAKE BAY DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Lines.		Gill nets.		Seines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	95,060,000	$3,061,000	42,752,000	$674,000	14,535,000	$173,000	3,275,000	$170,000	4,823,000	$84,000	1,174,000	$44,000	28,502,000	$1,915,000
Fish:														
Alewives	31,355,000	146,000	26,399,000	114,000	.....	.....	1,105,000	9,200	3,722,000	20,000	127,000	2,400	1,000	100
Black bass	14,000	1,100	600	(2)	2,700	200	(2)	(2)	7,000	600	3,700	300	.....	.....
Bluefish	193,000	10,000	56,000	3,700	88,000	3,800	29,000	1,500	15,000	1,300	5,200	100	.....	.....
Butterfish	593,000	16,000	552,000	15,000	.....	.....	16,000	300	20,000	1,400	4,500	100	.....	.....
Carp, German	186,000	4,900	22,000	1,200	.....	.....	12,000	500	139,000	2,700	12,000	500	.....	.....
Catfish	619,000	28,000	221,000	11,000	47,000	1,900	56,000	2,700	62,000	3,900	234,000	8,600	.....	.....
Crevalle	80,000	1,800	80,000	1,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Croaker	3,344,000	82,000	2,844,000	69,000	251,000	6,500	60,000	1,800	76,000	2,100	111,000	2,900	.....	.....
Drum, salt-water	31,000	600	31,000	600	100	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Eels	76,000	3,700	25,000	1,400	5,200	300	.....	.....	.....	.....	5,000	200	41,000	1,800
Flounders	88,000	3,000	77,000	2,500	.....	.....	2,800	100	2,500	100	5,300	300	.....	.....
Hickory shad	233,000	6,200	81,000	2,500	.....	.....	66,000	1,600	84,000	2,100	2,500	100	.....	.....
Hogfish	108,000	11,000	46,000	6,800	51,000	2,500	.....	.....	11,000	1,600	.....	.....	.....	.....
Kingfish	24,000	1,100	12,000	500	.....	.....	.....	.....	5,800	300	7,000	200	.....	.....
Menhaden	3,844,000	10,000	3,844,000	10,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minnows	2,200	900	.....	.....	.....	.....	.....	.....	2,200	900	.....	.....	.....	.....
Moonfish	10,000	400	10,000	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mullet	178,000	6,200	35,000	1,300	13,000	500	99,000	3,300	21,000	700	3,000	100	5,800	200
Perch, white	384,000	24,000	131,000	7,800	16,000	1,000	82,000	5,400	71,000	4,400	83,000	4,900	100	(2)
Perch, yellow	92,000	4,400	45,000	2,100	.....	.....	.....	.....	15,000	700	31,000	1,500	.....	.....
Pike and pickerel	3,800	300	600	(2)	.....	.....	200	(2)	3,000	300	100	(2)	.....	.....
Pompano	19,000	3,000	18,000	2,800	400	100	1,000	200	.....	.....	200	(2)	.....	.....
Scup	44,000	2,500	41,000	2,300	.....	.....	.....	.....	2,000	200	1,000	(2)	.....	.....
Shad	6,679,000	447,000	4,855,000	303,000	.....	.....	1,588,000	127,000	203,000	14,000	32,000	2,900	.....	.....
Sheepshead	1,900	200	1,500	100	400	(2)	.....	.....	.....	.....	.....	.....	.....	.....
Spanish mackerel	99,000	9,100	88,000	7,900	.....	.....	.....	.....	200	(2)	11,000	1,200	.....	.....
Spot	151,000	12,000	98,000	4,300	53,000	3,100	5,600	500	42,000	4,100	2,700	100	.....	.....
Squeteague	3,330,000	99,000	2,807,000	75,000	113,000	3,300	56,000	2,600	199,000	11,000	355,000	6,800	.....	.....
Striped bass	474,000	44,000	156,000	14,000	33,000	3,400	61,000	5,800	117,000	11,000	107,000	10,000	100	(2)
Sturgeon	85,000	9,400	54,000	6,300	.....	.....	30,000	3,000	1,000	100	300	(2)	.....	.....
Caviar and sturgeon eggs	8,900	11,000	5,000	5,800	.....	.....	3,700	4,600	100	200	.....	.....	.....	.....
Suckers	10,000	500	.....	.....	.....	.....	.....	.....	.....	.....	10,000	500	.....	.....
All other	12,000	500	7,600	400	500	(2)	.....	.....	500	(2)	3,100	100	.....	.....
Frogs	3,000	700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	700
Crabs, hard	16,279,000	169,000	140,000	700	13,853,000	147,000	.....	.....	.....	.....	16,000	200	2,270,000	22,000
Crabs, soft	1,967,000	83,000	.....	.....	1,900	100	.....	.....	.....	.....	.....	.....	1,965,000	83,000
Turtles	24,000	500	18,000	300	6,000	300	600	(2)	.....	.....	.....	.....	.....	.....
Clams, hard	[4] 1,082,000	213,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 1,082,000	213,000
Oysters, market, from public areas	[5] 7,070,000	479,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 7,070,000	479,000
Oysters, market, from private areas	[6] 9,382,000	838,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 9,382,000	838,000
Oysters, seed, from public areas	[7] 6,217,000	257,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[7] 6,217,000	257,000
Oysters, seed, from private areas	[8] 463,000	20,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8] 463,000	20,000
Skins—mink, muskrat, and otter	[9] 300	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9] 300	400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 27,614,000 pounds, valued at $1,881,000; dip nets, 828,000 pounds, valued at $29,000; eel pots, 41,000 pounds, valued at $1,800; mink, muskrat, and otter traps, 300 pounds, valued at $400; and minor apparatus, 19,000 pounds, valued at $1,900.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 135,000 bushels.
[5] 1,010,000 bushels.
[6] 1,340,000 bushels.
[7] 888,000 bushels.
[8] 66,000 bushels.
[9] 1,000 skins.

TABLE 9.—VIRGINIA—PRODUCTS OF SHORE AND BOAT FISHERIES OF ATLANTIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Seines.		Lines.		Fyke and hoop nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	10,385,000	$646,000	2,791,000	$101,000	205,000	$35,000	449,000	$19,000	250,000	$10,000	106,000	$2,500	6,583,000	$478,000
Fish:														
Alewives	172,000	3,200	131,000	2,300			14,000	200			26,000	600		
Black bass	58,000	5,800					56,000	5,600			2,000	200		
Bluefish	12,000	900	12,000	900										
Butterfish	125,000	4,400	125,000	4,400										
Carp, German	94,000	2,800					90,000	2,700			4,000	100		
Catfish	97,000	2,900					91,000	2,700			6,000	200		
Croaker	1,402,000	35,000	1,327,000	33,000	1,000	(2)			74,000	1,500				
Drum, salt-water	45,000	900	30,000	300					15,000	600	2,800	(2)		
Eels	3,300	100											3,300	100
Flounders	100,000	4,300	76,000	3,400			14,000	500	11,000	400				
Kingfish	70,000	3,800	58,000	3,200			5,000	200	7,200	400				
Mullet	83,000	3,000	21,000	800	49,000	1,800	13,000	400	200	(2)				
Perch, white	54,000	2,900	22,000	1,400			29,000	1,500	200	(2)	2,100	100		
Perch, yellow	17,000	700					16,000	600			1,000	(2)		
Pike and pickerel	8,500	600					8,300	600			200	(2)		
Scup	4,700	300	4,500	200							200	(2)		
Shad	48,000	4,600	40,000	4,000			5,000	400			3,000	300		
Sheepshead	80,000	4,800	80,000	4,800										
Spanish mackerel	177,000	16,000	132,000	11,000	45,000	4,500								
Spot	38,000	2,200	30,000	2,000			1,500	(2)	6,000	100				
Squeteague	903,000	38,000	654,000	28,000	5,000	200	52,000	2,600	137,000	7,100	56,000	800		
Striped bass	2,000	200	2,000	200										
Sturgeon	98,000	13,000	5,500	600	93,000	12,400								
Caviar and sturgeon eggs	13,000	17,000	500	500	12,000	16,000								
Sunfish	58,000	1,200					55,000	1,100			2,500	100		
All other	41,000	200	40,000	200	200	(2)								
Terrapin	400	400											400	400
Clams, hard	[3] 844,000	160,000											[3] 844,000	160,000
Oysters, market, from public areas	[4] 849,000	53,000											[4] 849,000	53,000
Oysters, market, from private areas	[5] 3,145,000	212,000											[5] 3,145,000	212,000
Oysters, seed, from public areas	[6] 1,721,000	50,000											[6] 1,721,000	50,000
Scallops	[7] 19,000	2,400											[7] 19,000	2,400

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 5,169,000 pounds, valued at $389,000; eel pots, 3,300 pounds, valued at $100; and minor apparatus 1,410,000 pounds, valued at $90,000.
[2] Less than $100. [3] 106,000 bushels. [4] 121,000 bushels. [5] 449,000 bushels. [6] 246,000 bushels. [7] 2,300 gallons.

WASHINGTON.

Washington ranked fourth among the states in 1908 in the extent of its fisheries, as measured by the value of their products, which was $3,513,000, and was exceeded only by Massachusetts, Virginia, and New York. Among the Pacific coast states it ranked first in this respect both at the present census and at the canvasses of 1899 and 1904, while at the canvasses of 1888, 1892, and 1895 it stood second.

In this report the fishing grounds of Washington are divided into two districts: The Pacific Ocean district, which comprises the Pacific Ocean, Puget Sound and other inlets, and all rivers, except the Columbia, flowing into the Pacific Ocean; and the Columbia River.

A summary of the principal statistics relating to the fisheries of the state for the year 1908 is given in the following tabular statement:

Number of persons employed	4,954
Capital:	
Vessels and boats, including outfit	$1,970,000
Apparatus of capture	1,162,000
Shore and accessory property and cash	309,000
Value of products	3,513,000

Comparison with previous canvasses.—The figures for the number of persons employed and the amount reported as the value of the investment in shore and accessory property, together with cash capital, are not comparable with those for previous canvasses, inasmuch as the latter include returns from canneries and packing houses and wholesale dealers. In the following tabular statement, however, which gives a comparative summary for the canvasses of 1888, 1892, 1895, 1899, 1904, and 1908, comparable figures have been secured by eliminating shoresmen and the amounts reported for shore and accessory property and cash capital:

YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
1908	4,879	$3,132,000	$1,970,000	$1,162,000	109,456,000	$3,513,000
1904	6,074	2,548,000	859,000	1,690,000	88,955,000	2,973,000
1899	5,617	2,620,000	775,000	1,845,000	120,388,000	2,871,000
1895	5,608	872,000	331,000	542,000	59,060,000	1,402,000
1892	3,458	630,000	281,000	349,000	35,757,000	932,000
1888	2,854	651,000	249,000	402,000	23,362,000	891,000

The fisheries of the state have shown a steady growth, the value of their products having more than quadrupled during the twenty years between 1888 and 1908. The value of vessels and boats has increased steadily since 1888. In the value of apparatus of capture, however, there has been a gradual decrease since 1899, and the number of persons employed in 1908 was smaller than in 1895, 1899, or 1904.

Persons employed.—The following table shows the distribution of the persons employed in 1908 for the state and for the two districts:

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	4,954	[1] 2,058	25	2,871	$1,224,000	$24,000	[2] $1,200,000
Vessel fisheries	1,109	70	14	1,025	685,000	13,000	672,000
Transporting vessels	134	5		129	59,000		59,000
Shore and boat fisheries	3,636	1,983	11	1,642	448,000	11,000	437,000
Shoresmen	75			75	32,000		32,000
Pacific Ocean district	3,511	1,369	22	2,120	1,085,000	23,000	1,062,000
Vessel fisheries	1,109	70	14	1,025	685,000	13,000	672,000
Transporting vessels	117	2		115	55,000		55,000
Shore and boat fisheries	2,210	1,297	8	905	313,000	10,000	303,000
Shoresmen	75			75	32,000		32,000
Columbia River	1,443	689	3	751	139,000	800	138,000
Transporting vessels	17	3		14	4,200		4,200
Shore and boat fisheries	1,426	686	3	737	135,000	800	134,000

[1] Exclusive of 35 proprietors not fishing. [2] Includes provisions furnished to the value of $187,000.

The fisheries of the Pacific Ocean district gave occupation to approximately seven-tenths of the total number employed in fishing and to three-fourths of the number employed in the shore and boat fisheries.

Equipment and other capital.—The following tabular statement shows in detail the number and value of vessels and boats, the value of shore and accessory property, and the amount of cash invested in 1908, both for the state as a whole and for the two districts:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.		
	Total.	Pacific Ocean district.	Columbia River.
Total	$3,441,000	$2,592,000	$850,000
Vessels, including outfit	1,594,000	1,572,000	21,000
Fishing	1,352,000	1,352,000	
Steam and motor	1,194,000	1,194,000	
Vessels	841,000	841,000	
Outfit	353,000	353,000	
Sail	157,000	157,000	
Vessels	113,000	113,000	
Outfit	44,000	44,000	
Other	1,100	1,100	
Transporting	242,000	220,000	21,000
Steam and motor	235,000	213,000	21,000
Vessels	200,000	181,000	18,000
Outfit	35,000	32,000	2,900
Other	6,900	6,900	
Boats	377,000	225,000	152,000
Steam and motor	120,000	57,000	62,000
Sail	95,000	9,900	85,000
Row	47,000	42,000	4,900
Other	116,000	116,000	
Apparatus of capture	1,162,000	986,000	576,000
Vessel fisheries	60,000	60,000	
Shore and boat fisheries	1,102,000	926,000	576,000
Shore and accessory property	220,000	120,000	100,000
Cash	89,000	89,000	

Of the total capital invested in the fisheries of Washington in 1908, 46 per cent, or somewhat less than one-half, represented the value of fishing and transporting vessels, the value of fishing vessels alone forming 39 per cent, or not quite two-fifths. The investment in vessels was mainly in power craft of at least 5 tons register, the value of which constituted 42 per cent, or slightly more than two-fifths, of the total capital employed, while the value of all other classes of vessels formed only 5 per cent of the total. In the fisheries of the Pacific Ocean district 61 per cent, or almost exactly three-fifths, of the capital was invested in vessels, as compared with a corresponding percentage of a little over 2 for the Columbia River fisheries, where all of the comparatively small number of vessels employed were engaged in transporting the catch.

Next to the value of vessels, that of apparatus of capture was the largest item of capital, amounting to 34 per cent, or about one-third of the total. By far the largest proportion—68 per cent, or slightly more than two-thirds—of the capital employed in the fisheries of the Columbia River represented the value of apparatus of capture. The value of boats formed 11 per cent of the total investment for the state, that of shore and accessory property 6 per cent, and the amount of cash 3 per cent, all the cash reported being invested in the Pacific Ocean district.

Statistics as to the number and tonnage of vessels and the number of boats are given in the next tabular statement.

The vessels engaged in fishing in 1908 comprised 85 steam and 22 sail vessels, with a combined tonnage of 3,991, and 11 unrigged craft, the value of all classes of fishing vessels being $955,000. Of these, all of which were used in the Pacific Ocean district, 45 belonged

to the halibut fleet and eight were employed in the cod fisheries, the remaining 65 being practically all used in making the salmon catch.

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.		
	Total.	Pacific Ocean district.	Columbia River.
Vessels, number	190	182	8
Fishing, number	118	118	.....
Steam and motor—			
Number	85	85	.....
Tonnage	2,329	2,329	.....
Sail—			
Number	22	22	.....
Tonnage	1,662	1,662	.....
Other, number	11	11	.....
Transporting, number	72	64	8
Steam and motor—			
Number	46	38	8
Tonnage	615	540	75
Other, number	26	26	.....
Boats, number	2,708	2,043	755
Steam and motor	229	87	152
Sail	561	81	480
Row	1,535	1,412	123
Other	463	463	.....

In addition to the vessels engaged in fishing, 46 registered vessels and 26 unrigged barges and scows were used exclusively for transporting the catch. Of this number, only eight were used on the Columbia River. The pound and trap net catch of Puget Sound was credited to the shore and boat fisheries, the tugs used in moving the catch from the traps to the canneries or markets being classified as transporting rather than fishing vessels.

In 1904 there were 50 fishing vessels and 80 transporting vessels reported by the Bureau of Fisheries. The present census therefore shows a large increase in the number and value of fishing vessels reported, and a small decrease in the number and value of vessels engaged exclusively in transporting the catch.

The number of power boats employed was 239 and their value $120,000, as compared with 63 boats, all operated by gasoline and valued at $44,000, in 1904. Of the boats reported in 1908, 152, valued at $62,000, were used on the Columbia River, and 87, valued at $57,000, in the other waters of the state. In contrast to this large increase in power boats, there was a material decrease in both the number and the value of other boats reported, including both sail and row boats. The combined number of sail and row boats reported in 1904 was 3,448, and their value $310,000, while in 1908 only 2,096, valued at $141,000, were in use. The sailboat is still employed to a considerable extent on the Columbia River, while practically all the rowboats are in use on Puget Sound and other inland waters. The boats included under the head "Other" are scows or barges of less than 5 tons register.

The amount invested in apparatus of capture in 1908 was $1,162,000, as compared with $1,690,000 in 1904. This large decrease was caused to a great extent by the fact that gill nets are taking the place of pound nets and seines in the salmon fisheries. The number of pound nets reported showed a decrease, while the number of gill nets reported increased from 1,537 in 1904 to 2,221 in 1908. The extending of the fisheries so as to include in the catch many species of fish which a few years ago were considered of little or no importance has resulted in an increased use of the purse seine. The investment in apparatus of capture is nearly equal for the two districts into which the state is divided, the apparatus reported for the fisheries of the Pacific Ocean district being valued at $586,000 and that reported for fisheries of the Columbia River at $576,000.

The value of the apparatus employed in the shore and boat fisheries, $1,102,000, is greatly in excess of that reported for vessel fisheries, $60,000. Of the latter amount, $45,000, or slightly more than 75 per cent, represented the value of lines used for the cod and halibut catch.

While the pound net is used more extensively in the salmon fisheries of Puget Sound, the larger gill nets are found in the Columbia River fisheries, for which 926 were reported, as compared with 1,295 gill nets returned as used elsewhere in the state. Fish wheels, of which 13 were reported, were in use only on the Columbia River, and their catch was confined to salmon. The following tabular statement shows statistics as to the number of the more important kinds of apparatus of capture:

KIND.	APPARATUS OF CAPTURE: 1908.[1]		
	Total.	Pacific Ocean district.	Columbia River.
Beam trawls	1	1	.....
Crab pots	7,755	7,755	.....
Dip nets	80	.....	80
Gill nets	2,221	1,295	926
Pound nets	365	137	228
Seines	349	314	35
Trap and hoop nets	180	180	.....
Wheels	13	.....	13

[1] All used in shore and boat fisheries, except 1 beam trawl, 2 gill nets, and 45 seines.

Products, by species.—Table 1, on page 267, shows in detail the quantity and value of the products, by species and by apparatus of capture, for 1908. The total products of the Washington fisheries in 1908 amounted to 100,456,000 pounds, valued at $3,513,000, as compared with 88,955,000 pounds, valued at $2,973,000, in 1904, an increase of 11,502,000 pounds, or 13 per cent, in quantity, and $541,000, or 18 per cent, in value. The increase reported for halibut alone was very large, amounting to 18,086,000 pounds, valued at $879,000; but this increase was partially offset by the decreases reported for several other species, particularly for several varieties of salmon. For cod, herring, and smelt there were marked increases both in the quantity and value of the catch. The black bass, which was formerly caught in limited quantities, is reported to be entirely extinct, none having been taken for the past few seasons.

Products, by fishing grounds.—Tables 2 and 3, on page 268, give, respectively, for the Pacific Ocean district and for the Columbia River, statistics similar to those shown in Table 1. The relative importance of the different species is indicated in the following tabular statement, which distributes the value of products reported for the state and for each district according to species, arranged in order of value:

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Pacific Ocean district.	Columbia River.
Total	$3,513,000	$3,018,000	$495,000
Fish	3,054,000	2,559,000	495,000
Salmon	1,571,000	1,097,000	475,000
Chinook	565,000	250,000	315,000
Blueback, or sockeye	513,000	499,000	14,000
Silver	255,000	200,000	54,000
Steelhead	123,000	42,000	81,000
Dog, or chum	115,000	105,000	11,000
Halibut	1,236,000	1,236,000	.....
Cod, salted	124,000	124,000	.....
Smelt	61,000	45,000	16,000
Herring	21,000	21,000	.....
Perch, viviparous	15,000	15,000	.....
Sturgeon	6,000	3,100	2,900
Rockfish	5,200	5,200	.....
All other	15,000	13,000	1,900
Oysters	352,000	352,000	.....
Market, from private areas	346,000	346,000	.....
Seed, from private areas	6,500	6,500	.....
Crabs, hard	51,000	51,000	.....
Shrimp	22,000	22,000	.....
Clams, razor	22,000	22,000	.....
Clams, hard	13,000	13,000	.....

Of the products of the Pacific Ocean district fisheries the salmon product was the most important, so far as the amount of the catch is concerned, contributing 44,297,000 pounds, or not quite one-half of a total catch of 89,305,000 pounds. The largest value, however, was reported for the halibut catch, which ranked second in quantity, and represented somewhat more than one-third of the total catch and the total value. The lower average value of the salmon product resulted largely from the fact that the species of salmon for which the largest catch was reported was the dog or chum, which is of comparatively little value. Catches but slightly smaller than that of the latter species were reported for the blueback and for the silver salmon, the value of the blueback catch representing 45 per cent of the total value of products of the salmon fisheries. Oysters ranked next to salmon in value of products, while salted cod also contributed an important product from the standpoint both of quantity and value.

Practically the only important product of the Columbia River fisheries was salmon, which represented 90 per cent of the total catch and contributed 96 per cent of the total value of products reported for this river. Of the different species of salmon, the chinook, which ranked fourth in quantity and second in value in the Pacific Ocean district, led both in quantity and value, constituting 53 per cent of the total salmon catch reported for the Columbia River, and contributing 66 per cent, or practically two-thirds, of its value. The silver variety ranked next to the chinook in quantity, and the steelhead next in value, while insignificant totals were reported for the blueback, which, as has already been shown, was the principal product of the salmon fisheries of the Pacific Ocean and its adjoining waters. There was a fairly large smelt product, but the catches of all other varieties of fish reported for the Columbia River were unimportant both in quantity and value.

Of the total value of products, 87 per cent represented the value of fish proper. The value of the salmon catch constituted 45 per cent, or more than three-sevenths, of the total value of products for the state; 36 per cent, or not quite three-eighths, of the value of the catch reported for the Pacific Ocean district; and 96 per cent, or considerably more than nine-tenths, of the value of the Columbia River catch. The halibut catch ranked second in importance, as measured by value, and was confined entirely to the ocean fisheries, its value representing 35 per cent of the total value of products and 41 per cent of the value of products reported for the Pacific Ocean district. The value reported for oysters represented 10 per cent of the total in 1908. No other product contributed as much as 5 per cent of the total value of products.

The fisheries of the Pacific Ocean district formed by far the more important branch of the state's fisheries, contributing 86 per cent, or more than five-sixths, of the total value of products, as compared with 14 per cent credited to the Columbia River. The latter district, however, reported 30 per cent of the total value of the salmon catch.

The following tabular statement shows the distribution of the total catch of the state according to the different waters from which it was taken:

FISHING GROUND.	FISHERY PRODUCTS: 1908.	
	Quantity (pounds).	Value.
Total	100,456,000	$3,513,000
Pacific Ocean	35,028,000	1,369,000
Puget Sound	46,020,000	1,308,000
Columbia River	11,151,000	495,000
Willapa Bay	2,025,000	226,000
Grays Harbor	3,294,000	56,000
Bellingham Bay and adjacent waters	1,156,000	36,000
Quinault River	780,000	22,000

The largest quantity of product was caught in Puget Sound, although the value of the ocean catch was greater by more than $60,000. This is due to the increased activity in the cod and halibut fisheries, which are ocean fisheries, and the decrease in the Puget Sound catch of the more valuable varieties of the salmon.

Products, by class of fisheries.—Statistics relating to the products of the vessel fisheries of the state, by species and by apparatus of capture, are presented in Table 4, on page 269; and similar statistics for the shore and boat fisheries are given in Table 5, on

page 269. Statistics as to the products of the shore and boat fisheries of the Pacific Ocean district are given in Table 6, on page 270.

The total catch of the vessel fisheries was 40,171,000 pounds, valued at $1,569,000, representing 40 per cent and 45 per cent, respectively, of the corresponding totals for the state. Halibut was the principal product, forming 75 per cent of the total catch of the vessel fisheries, and contributing 79 per cent of the total value of their products. Cod, salmon, oysters, and shrimp were other products of importance. The bulk of the catch of the vessel fisheries was made by lines, seines, and dredges and tongs, 87 per cent of the quantity being taken by lines. Less than 1 per cent of the total product was caught by gill nets and trawls. The total catch of the vessel fisheries was credited to the Pacific Ocean district, no fishing vessels being employed in the Columbia River fisheries.

The shore and boat fisheries produced 60 per cent of the total quantity and 55 per cent of the total value of fishery products of Washington in 1908. Salmon formed the chief product, and of the total salmon catch in the state 92 per cent, representing 95 per cent of the value, was reported by the shore and boat fisheries. Pound nets, gill nets, and seines were the apparatus most extensively used in this class of fisheries.

Of the total quantity reported for the fisheries of the Pacific Ocean district, 55 per cent, with a value equal to 48 per cent of the total value, represented the products of the shore and boat fisheries of these waters, comprising mainly salmon, together with oysters and other shellfish.

Products, by apparatus of capture.—The following tabular statement shows the value of the products taken, by the principal kinds of apparatus of capture used, in 1908:

KIND OF APPARATUS.	FISHERY PRODUCTS: 1908.				
	Total.	Distributed by districts.		Distributed by class of fisheries.	
		Pacific Ocean district.	Columbia River.	Vessel fisheries.	Shore and boat fisheries.
Total	$3,513,000	$3,018,000	$495,000	$1,569,000	$1,944,000
Lines	1,368,000	1,368,000	.....	1,368,000	.....
Pound nets	868,000	703,000	165,000	.....	868,000
Gill nets	468,000	253,000	216,000	700	468,000
Dredges, tongs, etc.	352,000	352,000	.....	104,000	248,000
Seines	333,000	256,000	77,000	96,000	237,000
Traps and hoop nets	51,000	51,000	.....	.....	51,000
Wheels	26,000	.....	26,000	.....	26,000
All other	47,000	35,000	12,000	1,100	46,000

The line catch was larger in respect both to quantity and value than the catch credited to any other kind of apparatus used in 1908. Halibut represented 86 per cent of the quantity and 90 per cent of the value of products taken by lines, cod and rockfish being the only other kinds of fish included in this catch.

The greater part of the catch reported as taken by pound nets, gill nets, and seines consisted of salmon, although large quantities of herring, smelt, flounders, and shrimp are caught by seines.

Salmon.—Salmon is the principal product of the Washington fisheries both in quantity and value, the catch of 1908 amounting to 54,312,000 pounds, valued at $1,571,000, although this represents a decrease of 20 per cent in quantity and of 19 per cent in value since 1904, when a catch of 68,252,000 pounds, valued at $1,943,000, was reported. The several species all shared in these decreases, with the exception of the blueback, or sockeye, and the steelhead. For the former an increase of 9 per cent in quantity was reported, which was accompanied, however, by a decrease of 3 per cent in value, and for the steelhead an increase of 26 per cent in quantity and a gain of 56 per cent in value were reported.

Both in 1908 and 1904 the largest catch reported for any single species was for the silver salmon, although the later canvass shows marked decreases in both the quantity and the value of this species, amounting to 46 per cent and 49 per cent, respectively. Dog salmon was next in importance, so far as the amount of the catch was concerned, followed closely by the blueback and the chinook. Owing to the superior quality of the last-named species, however, the value of the catch was greater than that reported for any other species of salmon, the blueback being a close second in this respect, while for dog salmon, on account of its inferiority as a food fish, the smallest value was reported, in spite of the large catch of this species. The marked falling off, as compared with 1904, both in the quantity and value of the chinook catch, accompanied by the increase in the catch of the blueback salmon, makes it probable that the latter may in time become the most important product of the salmon fisheries of the state. Both species are largely sold fresh, being frozen and shipped in refrigerator cars to eastern markets.

The following tabular statement distributes the salmon catch of the state according to the different waters from which it was taken:

FISHING GROUND.	SALMON PRODUCT: 1908.	
	Quantity (pounds).	Value.
Total	54,312,000	$1,571,000
Puget Sound	37,571,000	995,000
Columbia River	10,015,000	475,000
Grays Harbor	3,203,000	45,000
Willapa Bay	1,781,000	24,000
Quinault River	780,000	22,000
Bellingham Bay	961,000	11,000

Halibut.—Next to salmon the halibut product is the most important of the fishery products of Washington. The catch of 1908, a year which was one of the most successful ever experienced by the fisheries of the northwest coast, was the heaviest yet reported, amounting to 30,072,000 pounds, valued at $1,236,000—an increase since 1904 of 149 per cent in quantity and 246 per cent in value. The growth of the halibut fishery has been more marked than that of any other branch of the Washington fisheries. During the summer months the halibut fleet, which has recently been increased by the addition of a number of splendid steel vessels, operates off Cape Flattery, but as winter approaches it becomes too rough in this locality, and the smaller boats tie up for the winter, while the larger ones go to Alaska, where the fishing grounds are better protected from storms.

TABLE 1.—WASHINGTON—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Lines.		Pound nets.		Gill nets.		Seines.		Wheels.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	100,456,000	$3,513,000	35,013,000	$1,368,000	28,860,000	$868,000	16,262,000	$468,000	14,932,000	$333,000	481,000	$26,000	4,909,000	$450,000
Fish:														
Black cod	168,000	4,900	168,000	4,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cod, salted	4,648,000	124,000	4,648,000	124,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cultus cod	62,000	1,400	62,000	1,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flounders	284,000	3,200	.....	.....	27,000	300	.....	.....	257,000	3,000	.....	.....	.....	.....
Halibut	30,072,000	1,236,000	30,072,000	1,236,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Herring	2,506,000	21,000	.....	.....	300,000	2,300	.....	.....	2,206,000	19,000	.....	.....	.....	.....
Perch, viviparous	661,000	15,000	.....	.....	.....	.....	.....	.....	661,000	15,000	.....	.....	.....	.....
Rockfish	132,000	5,200	63,000	1,700	.....	.....	.....	.....	69,000	3,500	.....	.....	.....	.....
Salmon, blueback or sockeye	12,501,000	513,000	.....	.....	10,491,000	424,000	649,000	27,000	1,269,000	57,000	92,000	5,300	.....	.....
Salmon, chinook	12,336,000	565,000	.....	.....	5,818,000	242,600	5,385,000	258,000	851,000	48,000	282,000	16,000	.....	.....
Salmon, dog or chum	13,055,000	115,000	.....	.....	4,230,000	32,000	3,600,000	30,000	5,226,000	54,000	.....	.....	.....	.....
Salmon, silver	14,080,000	255,000	.....	.....	6,991,000	122,000	5,714,000	105,000	1,375,000	28,000	.....	.....	.....	.....
Salmon, steelhead	2,330,000	123,000	.....	.....	855,000	41,000	726,000	41,000	651,000	36,000	107,000	4,800	.....	.....
Shad	100,000	1,900	.....	.....	64,000	1,200	500	[2]	35,000	700	.....	.....	.....	.....
Smelt	2,897,000	61,000	.....	.....	.....	.....	90,000	4,500	1,907,000	45,000	.....	.....	900,000	12,000
Sole	190,000	3,800	.....	.....	5,000	200	.....	.....	185,000	3,600	.....	.....	.....	.....
Sturgeon	185,000	6,000	.....	.....	80,000	2,700	97,000	2,600	8,100	700	.....	.....	.....	.....
Crabs, hard	2,179,000	51,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,179,000	51,000
Shrimp	247,000	22,000	.....	.....	.....	.....	.....	.....	232,000	21,000	.....	.....	15,000	1,000
Clams, hard	[3] 155,000	13,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3] 155,000	13,000
Clams, razor	[4] 234,000	22,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 234,000	22,000
Oysters, market, from private areas	[5] 1,321,000	346,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 1,321,000	346,000
Oysters, seed, from private areas	[6] 104,000	6,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[6] 104,000	6,500

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,425,000 pounds, valued at $352,000; traps and hoop nets, 2,179,000 pounds, valued at $51,000; dip nets, 900,000 pounds, valued at $12,000; beam trawls, 15,000 pounds, valued at $1,100; and minor apparatus, 389,000 pounds, valued at $34,000.
[2] Less than $100. [3] 19,000 bushels. [4] 23,000 bushels. [5] 189,000 bushels. [6] 15,000 bushels.

TABLE 2.—WASHINGTON—FISHERY PRODUCTS OF PACIFIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—									
			Lines.		Pound nets.		Seines.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	89,305,000	$3,018,000	35,013,000	$1,368,000	24,928,000	$703,000	13,379,000	$256,000	11,977,000	$253,000	4,010,000	$439,000
Fish:												
Black cod	168,000	4,900	168,000	4,900								
Cod, salted	4,648,000	124,000	4,648,000	124,000								
Cultus cod	62,000	1,400	62,000	1,400								
Flounders	284,000	3,200			27,000	300	257,000	2,900				
Halibut	30,072,000	1,236,000	30,072,000	1,236,000								
Herring	2,506,000	21,000			300,000	2,200	2,206,000	19,000				
Perch, viviparous	661,000	15,000					661,000	15,000				
Rockfish	132,000	5,200	63,000	1,700			69,000	3,500				
Salmon, blueback or sockeye	12,231,000	499,000			10,334,000	417,000	1,252,000	57,000	645,000	26,000		
Salmon, chinook	6,961,000	250,000			4,425,000	161,000	39,000	2,000	2,517,000	85,000		
Salmon, dog or chum	12,246,000	165,000			3,690,000	26,000	5,225,00 0	52,000	3,330,000	26,000		
Salmon, silver	12,150,000	200,000			5,993,000	92,000	1,146,000	22,000	5,011,000	86,000		
Salmon, steelhead	689,000	42,000			86,000	3,500	199,000	14,000	403,000	25,000		
Smelt	1,907,000	45,000					1,907,000	45,000				
Sole	190,000	3,800			5,000	200	185,000	3,600				
Sturgeon	139,000	3,100			68,000	1,700			71,000	1,400		
Crabs, hard	2,179,000	51,000									2,179,000	51,000
Shrimp	247,000	22,000					232,000	21,000			15,000	1,100
Clams, hard	[2] 155,000	13,000									[2] 155,000	13,000
Clams, razor	[3] 234,000	22,000									[3] 234,000	22,000
Oysters, market, from private areas	[4] 1,321,000	346,000									[4] 1,321,000	346,000
Oysters, seed, from private areas	[5] 104,000	6,500									[5] 104,000	6,500

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,425,000 pounds, valued at $352,000; traps and hoop nets, 2,179,000 pounds, valued at $51,000; beam trawls, 15,000 pounds, valued at $1,100; and minor apparatus, 389,000 pounds, valued at $34,000.
[2] 19,000 bushels. [3] 23,000 bushels. [4] 189,000 bushels. [5] 15,000 bushels.

TABLE 3.—WASHINGTON—FISHERY PRODUCTS OF THE COLUMBIA RIVER:[1] 1908.

SPECIES	TOTAL.		PRODUCT CAUGHT BY—							
			Gill nets.		Pound nets.		Seines.		All other apparatus.[2]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	11,151,000	$495,000	4,285,000	$216,000	3,932,000	$165,000	1,554,000	$77,000	1,382,000	$38,000
Salmon, blueback or sockeye	270,000	14,000	3,500	100	158,000	7,500	17,000	700	92,000	5,300
Salmon, chinook	5,356,000	315,000	2,868,000	170,000	1,393,000	82,000	812,000	46,000	282,000	16,000
Salmon, dog or chum	809,000	11,000	270,000	4,300	539,000	6,800				
Salmon, silver	1,230,000	54,000	703,000	19,000	997,000	30,000	229,000	5,600		
Salmon, steelhead	1,650,000	81,000	323,000	16,000	769,000	38,000	451,000	23,000	107,000	4,800
Shad	100,000	1,900	500	(3)	64,000	1,200	35,000	700		
Smelt	990,000	16,000	90,000	4,500					900,000	12,000
Sturgeon	46,000	2,900	26,000	1,200	12,000	1,000	8,100	700		

[1] All taken in shore and boat fisheries.
[2] Includes apparatus, with catch, as follows: Wheels, 481,000 pounds, valued at $26,000; and dip nets, 900,000 pounds, valued at $12,000.
[3] Less than $100.

TABLE 4.—WASHINGTON—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Lines.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	40,171,000	$1,569,000	35,013,000	$1,368,000	4,719,000	$96,000	439,000	$106,000
Fish:								
Black cod	168,000	4,900	168,000	4,900				
Cod, salted	4,648,000	124,000	4,648,000	124,000				
Cultus cod	62,000	1,400	62,000	1,400				
Halibut	30,072,000	1,236,000	30,072,000	1,236,000				
Herring	130,000	1,300			130,000	1,300		
Rockfish	63,000	1,700	63,000	1,700				
Salmon, blueback or sockeye	664,000	30,000			664,000	30,000		
Salmon, chinook	6,000	400			6,000	400		
Salmon, dog or chum	3,032,000	30,000			3,027,000	30,000	5,000	(2)
Salmon, silver	626,000	11,000			598,000	11,000	28,000	500
Salmon, steelhead	24,000	1,800			24,000	1,800		
Smelt	38,000	1,100			38,000	1,100		
Sturgeon	14,000	200					14,000	200
Shrimp	247,000	22,000			232,000	21,000	15,000	1,100
Oysters, market, from private areas	[3] 377,000	104,000					[3] 377,000	104,000

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 377,000 pounds, valued at $104,000; beam trawls, 15,000 pounds, valued at $1,100; and gill nets, 47,000 pounds, valued at $700.
[2] Less than $100.
[3] 54,000 bushels.

TABLE 5.—WASHINGTON—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Pound nets.		Gill nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	60,285,000	$1,944,000	28,860,000	$868,000	16,215,000	$468,000	10,213,000	$237,000	4,998,000	$371,000
Fish:										
Flounders	284,000	3,200	27,000	300			257,000	2,900		
Herring	2,376,000	20,000	300,000	2,200			2,076,000	17,000		
Perch, viviparous	660,000	15,000					660,000	15,000		
Rockfish	69,000	3,500					69,000	3,500		
Salmon, blueback or sockeye	11,837,000	484,000	10,491,000	424,000	649,000	27,000	605,000	28,000	92,000	5,300
Salmon, chinook	12,330,000	565,000	5,818,000	242,000	5,385,000	258,000	845,000	48,000	282,000	16,000
Salmon, dog or chum	10,023,000	85,000	4,230,000	32,000	3,595,000	30,000	2,199,000	22,000		
Salmon, silver	13,454,000	243,000	6,990,000	122,000	5,686,000	105,000	778,000	17,000		
Salmon, steelhead	2,314,000	121,000	855,000	41,000	726,000	41,000	626,000	34,000	107,000	4,800
Shad	100,000	1,900	64,000	1,200	500	(2)	35,000	700		
Smelt	2,859,000	60,000			90,000	4,500	1,869,000	44,000	900,000	12,000
Sole	190,000	3,800	5,000	200			185,000	3,600		
Sturgeon	171,000	5,800	80,000	2,700	83,000	2,400	8,100	700		
Crabs, hard	2,179,000	51,000							2,179,000	51,000
Clams, hard	[3] 155,000	13,000							[3] 155,000	13,000
Clams, razor	[4] 234,000	22,000							[4] 234,000	22,000
Oysters, market, from private areas	[5] 944,000	242,000							[5] 944,000	242,000
Oysters, seed, from private areas	[6] 104,000	6,500							[6] 104,000	6,500

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,048,000 pounds, valued at $248,000; traps and hoop nets, 2,179,000 pounds, valued at $51,000; wheels, 481,000 pounds, valued at $26,000; dip nets, 900,000 pounds, valued at $12,000; and minor apparatus, 389,000 pounds, valued at $34,000.
[2] Less than $100. [3] 19,000 bushels. [4] 23,000 bushels. [5] 135,000 bushels. [6] 15,000 bushels.

TABLE 6.—WASHINGTON—PRODUCTS OF SHORE AND BOAT FISHERIES OF THE PACIFIC OCEAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Pound nets.		Gill nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	49,134,000	$1,449,000	24,928,000	$703,000	11,930,000	$252,000	8,659,000	$160,000	3,617,000	$334,000
Fish:										
Flounders	284,000	3,200	27,000	300			257,000	2,900		
Herring	2,376,000	20,000	300,000	2,200			2,076,000	17,000		
Perch	660,000	15,000					660,000	15,000		
Rockfish	69,000	3,500					69,000	3,500		
Salmon, blueback or sockeye	11,566,000	470,000	10,334,000	417,000	645,000	26,000	588,000	27,000		
Salmon, chinook	6,975,000	250,000	4,425,000	161,000	2,517,000	88,000	33,000	1,000		
Salmon, dog or chum	9,214,000	74,000	3,690,000	26,000	3,325,000	26,000	2,199,000	22,000		
Salmon, silver	11,524,000	189,000	5,993,000	92,000	4,983,000	86,000	549,000	11,000		
Salmon, steelhead	664,000	40,000	86,000	3,500	403,000	25,000	175,000	12,000		
Smelt	1,869,000	44,000					1,869,000	44,000		
Sole	190,000	3,800	5,000	200			185,000	3,600		
Sturgeon	125,000	2,900	68,000	1,700	57,000	1,100				
Crabs, hard	2,179,000	51,000							2,179,000	51,000
Clams, hard	[2] 155,000	13,000							[2] 155,000	13,000
Clams, razor	[3] 234,000	22,000							[3] 234,000	22,000
Oysters, market, from private areas	[4] 944,000	242,000							[4] 944,000	242,000
Oysters, seed, from private areas	[5] 104,000	6,500							[5] 104,000	6,500

[1] Includes apparatus, with catch, as follows: Dredges, tongs, etc., 1,048,000 pounds, valued at $248,000; traps and hoop nets, 2,179,000 pounds, valued at $51,000; and minor apparatus, 389,000 pounds, valued at $34,000.
[2] 19,000 bushels. [3] 23,000 bushels. [4] 135,000 bushels. [5] 15,000 bushels.

WEST VIRGINIA.

The commercial fisheries of West Virginia are confined to the Ohio River and are all of the shore and boat class.

The following statement gives a general summary of the fishing industry of the state in 1908:

Number of persons employed	8
Capital:	
Boats	$100
Apparatus of capture	200
Shore and accessory property	800
Value of product	2,000

In 1908 large reductions appear in the number of persons employed, the capital invested, and the quantity and value of fishery products, as compared with 1899 and 1894, for which years statistics are given in the reports of the Bureau of Fisheries. The comparative figures are as follows:

YEAR.	Persons employed.	Capital invested.	PRODUCTS.	
			Quantity (pounds).	Value.
1908	8	$1,100	33,000	$2,000
1899	86	3,600	161,000	12,000
1894	67	4,100	162,000	8,700

The total value of equipment as reported for 1908 was $300, and represented eight rowboats, valued at $100, and apparatus of capture valued at $200. The latter consisted of lines, two seines, and 22 fyke and hoop nets.

The quantity and value of products, by species, were as follows:

SPECIES.	FISHERY PRODUCTS: 1908.	
	Quantity (pounds).	Value.
Total	33,000	$2,000
Catfish	9,600	700
Carp, German	9,800	400
Drum, fresh-water	3,400	300
Suckers	6,000	300
Sturgeon	3,000	200
Pike perch (wall-eyed pike)	1,400	100
Buffalo fish	300	(1)

[1] Less than $100.

WISCONSIN.

The fishery products of Wisconsin were obtained from the Mississippi River and its tributary waters, and from Lake Superior and Lake Michigan. The following statement gives a summary of the chief statistics for the fishing industry of this state in 1908:

Number of persons employed	2,011
Capital:	
Vessels and boats, including outfit	$417,000
Apparatus of capture	407,000
Shore and accessory property and cash	276,000
Value of products	1,067,000

Comparison with previous canvasses.—The value of the product in 1908 was larger than that reported in 1899, in both the river and the lake districts. The comparative summary following shows the more important statistics relating to the fisheries of the two districts in 1899 and 1908.

DISTRICT AND YEAR.	Persons employed, exclusive of shoresmen.	VALUE OF EQUIPMENT.			PRODUCTS.	
		Total.	Vessels and boats, including outfit.	Apparatus of capture.	Quantity (pounds).	Value.
All fisheries:						
1908	1,889	$824,000	$417,000	$407,000	30,953,000	$1,067,000
1899	1,645	483,000	196,000	287,000	36,767,000	542,000
Great Lakes:						
1908	1,284	751,000	383,000	367,000	22,905,000	853,000
1899	1,154	468,000	189,000	279,000	19,530,000	454,000
Mississippi River district:						
1908	605	73,000	34,000	40,000	7,958,000	215,000
1899	491	15,000	7,000	8,000	17,237,000	88,000

The large quantity reported for the Mississippi River district in 1899 consisted chiefly of mussel shells, the food-fish catch in that year being only about a million pounds. A period of great excitement over pearl hunting began in 1896, and this activity, while it lasted, drew fishermen away from their usual pursuits, so that the catch of fish proper was very small.

Persons employed.—The following table gives data concerning the persons employed in the fisheries of Wisconsin in 1908. The number connected with the shore and boat fisheries, including 36 of the shoresmen, was 1,528, while the number credited to vessel fisheries, including the 86 remaining shoresmen, was 473. More than one-half of the persons employed in the shore and boat fisheries, and nearly nine-tenths of those employed in the vessel fisheries, were reported for the Lake Michigan district.

DISTRICT AND CLASS.	PERSONS EMPLOYED: 1908.						
	Number.				Salaries and wages.		
	Total.	Proprietors and independent fishermen.	Salaried employees.	Wage-earners.	Total.	Salaries.	Wages.
Total	2,011	[1] 1,120	3	888	$266,000	$400	[2] $266,000
Vessel fisheries	387	135	2	250	113,000	100	113,000
Transporting vessels	10			10	3,500		3,500
Shore and boat fisheries	1,492	985	1	506	114,000	300	114,000
Shoresmen	122			122	36,000		36,000
Lake Michigan district	1,206	639	2	565	203,000	300	203,000
Vessel fisheries	345	126	1	218	108,000	100	108,000
Transporting vessels	3			3	200		200
Shore and boat fisheries	757	513	1	243	60,000	300	60,000
Shoresmen	101			101	34,000		34,000
Lake Superior district	200	93	1	106	19,000	(3)	19,000
Vessel fisheries	42	9	1	32	4,700	(3)	4,600
Transporting vessels	7			7	3,200		3,200
Shore and boat fisheries	130	84		46	9,500		9,500
Shoresmen	21			21	1,600		1,600
Mississippi River district (shore and boat fisheries)	605	388		217	44,000		44,000

[1] Exclusive of 42 proprietors not fishing.
[2] Includes provisions furnished to the value of $11,000.
[3] Less than $100.

Equipment and other capital.—The following tabular statement gives the distribution, by class of investment, of the total capital employed in the fisheries of the state and of each district in 1908:

CLASS OF INVESTMENT.	VALUE OF EQUIPMENT AND OTHER CAPITAL: 1908.			
	Total.	Lake Michigan district.	Mississippi River district.	Lake Superior district.
Total	$1,100,000	$934,000	$82,000	$84,000
Vessels, including outfit	244,000	218,000		25,000
Fishing	235,000	218,000		17,000
Steam and motor	235,000	218,000		17,000
Vessels	187,000	173,000		14,000
Outfit	48,000	45,000		2,600
Other	(1)	(1)		
Transporting (steam and motor)	9,000	500		8,500
Vessels	6,800	300		6,500
Outfit	2,200	200		2,000
Boats	173,000	125,000	34,000	15,000
Steam and motor	154,000	116,000	26,000	12,000
Sail	4,200	2,800		1,400
Row	13,000	4,300	7,600	1,500
Other	1,200	1,200	(1)	
Apparatus of capture	407,000	336,000	40,000	31,000
Vessel fisheries	174,000	169,000		4,500
Shore and boat fisheries	233,000	167,000	40,000	26,000
Shore and accessory property	236,000	215,000	7,600	13,000
Cash	40,000	40,000		

[1] Less than $100.

The value of vessels and boats, including their outfit, and that of apparatus of capture each formed something over 37 per cent of the total investment, while the value of shore and accessory property, combined with the cash reported, amounted to 25 per cent. Of the value of shore and accessory property $126,000 was reported for shore and boat fisheries and $110,000 for vessel fisheries and transporting vessels. The amount of cash invested in the shore and boat fisheries was $20,000 and that in the vessel fisheries $19,000. The shore and boat fisheries were therefore credited with $553,000, vessel fisheries with $533,000, and transporting vessels with $14,000. The investment in the Lake Michigan fisheries represented 85 per cent of the total for the state and comprised $427,000 invested in shore and boat fisheries, $507,000 in vessel fisheries, and $500 in transporting vessels. Of the Lake Superior investment, which formed less than 8 per cent of the total for the state, $54,000 pertained to shore and boat fisheries, $21,000 to vessel fisheries, and $8,500 to transporting vessels.

Nearly one-half of the investment in the Mississippi River district represented the value of apparatus of capture.

The following tabular statement gives statistics concerning the number and tonnage of vessels and the number of boats:

CLASS OF CRAFT.	VESSELS AND BOATS: 1908.			
	Total.	Lake Michigan district.	Mississippi River district.	Lake Superior district.
Vessels:				
Fishing—				
Steam and motor—				
Number	85	80		5
Tonnage	1,051	971		80
Other, number	1	1		
Transporting—				
Number	3	1		2
Tonnage	144	5		139
Boats, number	1,200	611	489	100
Steam and motor	360	222	106	32
Sail	76	59		17
Row	739	307	381	51
Other	25	23	2	

Statistics as to the number of the more important kinds of apparatus of capture are given in the following tabular statement:

KIND.	APPARATUS OF CAPTURE: 1908.					
	Total.	Distributed by districts.			Distributed by class of fisheries.	
		Lake Michigan district.	Mississippi River district.	Lake Superior district.	Vessel fisheries.	Shore and boat fisheries.
Crawfish pots	13,290	13,290	.....	.....	2,000	11,290
Dip nets	5	5	.....	.....	.....	5
Fyke and hoop nets	2,719	2,172	547	.....	536	2,183
Gill nets	30,291	28,773	425	1,093	19,070	11,221
Harpoons, spears, etc	104	7	97	.....	.....	104
Mink and muskrat traps	1,200	530	670	.....	.....	1,200
Pound and trap nets	619	267	267	85	6	613
Seines	384	253	128	3	240	144
Trammel nets	31	7	24	.....	.....	31

All the vessels and all but a small number of the boats were power craft. Of the more important kinds of apparatus of capture, gill nets were most numerous, and were used principally in the vessel fisheries.

Products, by species.—Table 1, on page 274, gives statistics relating to products, by species and by apparatus of capture. Six species—lake trout, herring, buffalo fish, whitefish, yellow perch, and German carp—contributed 84 per cent of the total product for the state, while their value formed 87 per cent of the total value.

Products, by fishing grounds.—Tables 2, 3, and 4, on pages 275 and 276, give the products, respectively, of the Lake Michigan, the Mississippi River, and the Lake Superior districts. The latter supplied only 5 per cent of the total value of the fishery product of the state. Of the seven species which made up the product of this district, lake herring and trout contributed, respectively, 53 per cent and 40 per cent of the value of the total catch from the district.

Products, by class of fisheries.—Tables 5 and 6, on pages 276 and 277, give, by species and by apparatus of capture, statistics as to the products of the vessel and the shore and boat fisheries of the state. Similar statistics are given for the vessel fisheries, respectively, of the Lake Michigan and the Lake Superior districts, in Tables 7 and 9; and for the shore and boat fisheries of the respective districts, in Tables 8 and 10. The fisheries of the Mississippi River district were all of the shore and boat class.

SPECIES.	VALUE OF PRODUCTS: 1908.		
	Total.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,067,000	$425,000	$642,000
Lake trout	340,000	200,000	140,000
Lake herring	322,000	173,000	150,000
Buffalo fish	103,000	.....	103,000
Whitefish	56,000	26,000	30,000
Perch, yellow	55,000	15,000	39,000
Carp, German	32,000	800	32,000
All other	157,000	11,000	127,000

The value of the catch made in the vessel fisheries and that of the catch made in the shore and boat fisheries formed 40 per cent and 60 per cent, respectively, of the value of the total state product. In the product of the vessel fisheries lake trout was the leading species with respect to value and lake herring ranked second, while in the catch reported for the shore and boat fisheries the order of these species was reversed.

Products, by apparatus of capture.—The following tabular statement shows the distribution of the total value of products according to apparatus of capture, for the state, for each class of fisheries, and for the three districts:

KIND OF APPARATUS.	VALUE OF PRODUCTS: 1908.					
	Total.	Distributed by districts.			Distributed by class of fisheries.	
		Lake Michigan district.	Mississippi River district.	Lake Superior district.	Vessel fisheries.	Shore and boat fisheries.
Total	$1,067,000	$794,000	$215,000	$58,000	$425,000	$642,000
Gill nets	533,000	494,000	7,700	32,000	349,000	184,000
Pound and trap nets	208,000	142,000	42,000	24,000	6,000	202,000
Seines	142,000	4,200	138,000	600	1,300	141,000
Lines	92,000	85,000	4,800	2,400	57,000	35,000
Fyke and hoop nets	54,000	49,000	4,500	.....	6,800	47,000
Trammel nets	7,200	3,500	3,700	.....	.....	7,200
All other	31,000	17,000	14,000	.....	4,700	26,000

Lake trout.—This species, which contributed 32 per cent of the total value of the fishery products of the state, was taken wholly in the lakes, 93 per cent of the quantity reported coming from Lake Michigan. Statistics concerning the catch as reported for the state in previous years are as follows:

YEAR.	LAKE-TROUT PRODUCT.	
	Quantity (pounds).	Value.
1908	4,710,000	$340,000
1903	5,561,000	263,000
1899	3,514,000	155,000
1890	3,820,000	178,000

Lake herring.—The value of the lake-herring product in 1908 was nearly 40 per cent greater than that of the largest catch previously reported—the catch of 1899—though the weight of the latter was greater by 343,000 pounds. The following tabular statement shows the quantity and value of the catch as reported at the various canvasses:

YEAR.	LAKE-HERRING PRODUCT.	
	Quantity (pounds).	Value.
1908	12,124,000	$322,000
1903	11,801,000	232,000
1899	12,467,000	236,000
1890	3,795,000	85,000

Buffalo fish.—The buffalo-fish product, all of which was from the Mississippi River district, ranked third in value among the fishery products of the state. Over 80 per cent of the catch was taken with seines, while pound and trap nets took most of the remainder. The statistics concerning the catch for certain years for which figures are available are as follows:

YEAR.	BUFFALO-FISH PRODUCT.	
	Quantity (pounds).	Value.
1908	3,178,000	$103,000
1899	184,000	3,500
1894	211,000	4,700

Whitefish.—These fish, which were taken wholly from the lake waters, ranked fourth among the fishery products of the state in value, contributing 10 per cent of the value of the total product and 10 per cent of the total weight. Besides the common whitefish, which was sold fresh, smoked, and salted, three other species were handled, namely, the bluefin, the longjaw, and the Menominee, the last two being sold in both a fresh and a prepared condition. Whitefish ranked third in value among the products of Lake Superior and fourth among those of Lake Michigan. Over 20 per cent of the total value reported for the species represented product taken in the former district. The whitefish yield was much less in 1908 than in 1890, but considerably more than in the years subsequent to 1890, as shown by the following tabular statement:

YEAR.	WHITEFISH PRODUCT.	
	Quantity (pounds).	Value.
1908	1,274,000	$56,000
1903	1,047,000	36,000
1899	633,000	20,000
1890	2,188,000	84,000

Yellow perch.—The yellow perch reported had a value nearly equal to that of whitefish and represented 5 per cent of the total value of products for the state. In Lake Michigan, where over 99 per cent of the catch was taken, this fish composed 12 per cent of the total product. Statistics for the entire state are not available for a series of years, but as practically the entire catch of this species was taken in Lake Michigan, comparative figures for this lake are given in the following tabular statement:

YEAR.	YELLOW-PERCH PRODUCT OF LAKE MICHIGAN.	
	Quantity (pounds).	Value.
1908	2,551,000	$54,000
1903	2,635,000	44,000
1899	1,908,000	25,000
1890	1,608,000	21,000

German carp.—This species ranked sixth among the leading species, contributing 5 per cent of the total value. Of the total catch of this fish, 85 per cent was taken in the Mississippi River district and the remainder in Lake Michigan. The carp product has increased almost as much as has that of buffalo fish, and the two combined not only account for the gain in the Mississippi River product since 1890, but counterbalance the decrease in the catch of certain other species, notably wall-eyed pike and sturgeon. The comparative summary given below is for the Mississippi River district, since statistics for that district only are available for the different years shown.

YEAR.	GERMAN-CARP PRODUCT OF MISSISSIPPI RIVER DISTRICT.	
	Quantity (pounds).	Value.
1908	1,914,000	$46,000
1899	170,000	2,700
1894	6,900	200

TABLE 1.—WISCONSIN—FISHERY PRODUCTS: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—													
			Gill nets.		Pound and trap nets.		Seines.		Lines.		Fyke and hoop nets.		Trammel nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	30,953,000	$1,067,000	12,481,000	$533,000	8,089,000	$208,000	4,995,000	$143,000	1,133,000	$92,000	2,449,000	$54,000	261,000	$7,200	1,545,000	$31,000
Fish:																
Black bass	13,000	1,200	.....	.....	400	(2)	7,900	700	1,000	100	3,000	400	200	(2)	.....	.....
Buffalo fish	3,178,000	103,000	110,000	4,800	374,000	17,000	2,653,000	81,000	3,500	100	28,000	800	9,700	300	.....	.....
Carp, German	2,247,000	52,000	72,000	1,800	123,000	3,400	1,694,000	39,000	38,000	1,500	157,000	3,100	159,000	3,300	3,600	200
Catfish and bullheads	276,000	20,000	2,800	300	45,000	3,900	101,000	6,800	36,000	3,300	87,000	4,900	3,800	300	500	(2)
Crappie	10,000	400	.....	.....	.....	.....	10,000	400	.....	.....	.....	.....	.....	.....	.....	.....
Dogfish, or bowfin	48,000	400	.....	.....	1,800	(2)	43,000	400	.....	.....	3,300	(2)	.....	.....	.....	.....
Drum, fresh-water	1,096,000	20,000	2,300	(2)	935,000	17,000	117,000	1,700	20,000	1,000	14,000	200	7,700	200	100	(2)
Herring, lake	12,124,000	322,000	7,007,000	240,000	5,066,000	82,000	4,400	100	.....	.....	46,000	600	.....	.....	.....	.....
Ling, or lawyer	42,000	500	8,700	100	6,600	(2)	.....	.....	800	(2)	26,000	300	.....	.....	.....	.....
Perch, yellow	2,563,000	55,000	800,000	22,000	229,000	4,300	28,000	700	23,000	1,600	1,481,000	26,000	100	(2)	.....	.....
Pike and pickerel	317,000	23,000	56,000	4,000	37,000	2,400	85,000	4,800	26,000	2,100	107,000	9,000	5,700	400	.....	.....
Pike perch (wall-eyed pike)	88,000	6,900	5,000	400	78,000	6,200	3,800	300	600	(2)	.....	.....	300	(2)	.....	.....
Sturgeon, lake	30,000	3,800	1,100	100	17,000	1,800	700	100	11,000	1,800	.....	.....	.....	.....	.....	.....
Sturgeon, shovelnose	82,000	4,400	12,000	800	4,200	200	40,000	2,200	1,200	100	500	(2)	24,000	1,100	.....	.....
Caviar	900	600	.....	.....	100	(2)	.....	.....	100	(2)	.....	.....	800	500	.....	.....
Suckers	1,212,000	24,000	291,000	8,000	275,000	5,100	109,000	2,000	.....	.....	480,000	7,200	50,000	1,100	6,800	300
Sunfish	75,000	1,700	.....	.....	500	(2)	73,000	1,700	.....	.....	1,900	(2)	.....	.....	.....	.....
Trout	4,710,000	340,000	3,168,000	213,000	571,000	67,000	.....	.....	969,000	80,000	2,100	100	.....	.....	.....	.....
Whitefish	292,000	22,000	86,000	6,500	198,000	15,000	8,200	500	.....	.....	100	(2)	.....	.....	.....	.....
Whitefish, blue-fin	710,000	29,000	646,000	28,000	64,000	1,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whitefish, long-jaw	121,000	2,300	114,000	2,200	7,500	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whitefish, Menominee	151,000	3,400	98,000	2,200	51,000	1,100	.....	.....	.....	.....	2,100	100	.....	.....	.....	.....
All other	9,400	500	300	(2)	1,900	100	1,300	100	1,700	200	4,200	200	.....	.....	.....	.....
Crawfish	348,000	14,000	.....	.....	.....	.....	500	(2)	.....	.....	.....	.....	.....	.....	348,000	14,000
Frogs	14,000	2,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,000	2,600
Turtles	44,000	1,000	.....	.....	2,200	(2)	15,000	400	.....	.....	5,200	100	.....	.....	22,000	500
Mussel shells, pearls, and slugs	1,150,000	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,150,000	12,000
Skins, mink	[3] 100	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3] 100	400
Skins, muskrat	[4] 1,000	600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 1,000	600

[1] Includes apparatus, with catch, as follows: Crawfish pots, 348,000 pounds, valued at $14,000; crowfoot dredges, 1,130,000 pounds, valued at $12,000; mink and muskrat traps, 1,000 pounds, valued at $1,000; spears and hooks, 25,000 pounds, valued at $1,000; dip nets, 11,000 pounds, valued at $600; and minor apparatus, 31,000 pounds, valued at $2,200.

[2] Less than $100. [3] 100 skins. [4] 3,000 skins.

TABLE 2.—WISCONSIN—FISHERY PRODUCTS OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—													
			Gill nets.		Pound and trap nets.		Lines.		Fyke and hoop nets.		Seines.		All other apparatus.[1]			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.		
Total	21,177,000	$794,000	11,137,000	$494,000	5,967,000	$142,000	1,000,000	$85,000	2,326,000	$49,000	208,000	$4,200	538,000	$21,000		
Fish:																
Black bass	4,500	500	.....	.....	400	(2)	1,000	100	3,000	400	(2)	(2)	.....	.....		
Carp, German, fresh	328,000	5,700	8,000	100	.....	.....	500	(2)	96,000	1,700	84,000	900	146,000	2,900		
Carp, German, smoked	4,500	700	.....	.....	.....	.....	4,500	700	.....	.....	.....	.....	.....	.....		
Catfish and bullheads	77,000	3,400	100	(2)	5,000	100	800	100	67,000	3,000	2,000	100	1,600	100		
Drum, or sheepshead	26,000	900	300	(2)	.....	.....	5,000	700	11,000	100	9,600	(2)	200	(2)		
Herring, lake, fresh	6,911,000	236,000	5,991,000	219,000	573,000	16,000	.....	.....	46,000	600	.....	.....	.....	.....		
Herring, lake, salted	327,000	5,200	10,000	200	317,000	5,000	.....	.....	.....	.....	.....	.....	.....	.....		
Herring, lake, smoked	3,921,000	67,000	291,000	9,900	3,630,000	57,000	.....	.....	.....	.....	.....	.....	.....	.....		
Ling, or lawyer	42,000	500	8,700	100	6,600	(2)	800	(2)	26,000	300	.....	.....	.....	.....		
Muskallunge	1,900	200	200	(2)	.....	.....	200	(2)	1,100	100	500	(2)	.....	.....		
Perch, yellow	2,551,000	54,000	800,000	22,000	229,000	4,000	23,000	1,600	1,481,000	26,000	16,000	300	100	(2)		
Pike and pickerel	234,000	18,000	56,000	4,000	22,000	1,500	26,000	2,100	104,000	8,800	21,000	1,500	5,000	300		
Pike perch (wall-eyed pike)	4,000	300	4,000	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Rock bass	4,800	200	100	(2)	1,700	100	.....	.....	3,000	100	.....	.....	.....	.....		
Sturgeon, lake, fresh	12,000	2,000	.....	.....	5,000	700	7,000	1,200	.....	.....	.....	.....	.....	.....		
Sturgeon, lake, smoked	2,500	500	.....	.....	.....	.....	2,500	500	.....	.....	.....	.....	.....	.....		
Suckers, fresh	987,000	20,000	279,000	7,800	131,000	2,900	.....	.....	474,000	7,200	72,000	1,400	30,000	700		
Suckers, salted	64,000	800	3,400	(2)	53,000	700	.....	.....	5,800	100	2,300	(2)	.....	.....		
Trout, fresh	4,302,000	316,000	2,895,000	197,000	476,000	42,000	929,000	78,000	2,100	100	.....	.....	.....	.....		
Trout, salted	26,000	900	12,000	500	14,000	400	.....	.....	.....	.....	.....	.....	.....	.....		
Whitefish, fresh	113,000	11,000	29,000	3,000	85,000	7,900	.....	.....	100	(2)	.....	.....	.....	.....		
Whitefish, salted	3,900	200	200	(2)	3,700	200	.....	.....	.....	.....	.....	.....	.....	.....		
Whitefish, bluefin	707,000	29,000	643,000	28,000	64,000	1,300	.....	.....	.....	.....	.....	.....	.....	.....		
Whitefish, longjaw	8,000	500	8,000	500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Whitefish, Menominee, fresh	90,000	2,300	68,000	1,600	20,000	600	.....	.....	2,100	100	.....	.....	.....	.....		
Whitefish, Menominee, salted	60,000	1,100	30,000	500	30,000	500	.....	.....	.....	.....	.....	.....	.....	.....		
All other	3,500	100	.....	.....	300	(2)	.....	.....	3,200	(2)	.....	.....	.....	.....		
Crawfish	348,000	14,000	.....	.....	.....	.....	.....	.....	.....	.....	500	(2)	348,000	14,000		
Frogs	13,000	2,400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13,000	2,400		
Skins, muskrat and mink	[3] 500	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[3] 500	200		

[1] Includes apparatus, with catch, as follows: Crawfish pots, 348,000 pounds, valued at $14,000; trammel nets, 166,000 pounds, valued at $3,500; dip nets, 11,000 pounds, valued at $600; spears and hooks, 2,200 pounds, valued at $300; mink and muskrat traps, 500 pounds, valued at $200; and minor apparatus, 11,000 pounds, valued at $2,100.

[2] Less than $100. [3] Less than 100 pounds. [4] 1,000 skins.

TABLE 3.—WISCONSIN—FISHERY PRODUCTS OF MISSISSIPPI RIVER DISTRICT:[1] 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—													
			Seines.		Pound and trap nets.		Gill nets.		Lines.		Fyke and hoop nets.		All other apparatus.[2]			
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.		
Total	7,958,000	$215,000	4,773,000	$138,000	1,509,000	$42,000	192,000	$7,700	92,000	$4,800	123,000	$4,500	1,268,000	$17,000		
Fish:																
Black bass	8,100	700	7,900	700	.....	.....	.....	.....	.....	.....	.....	.....	200	(3)		
Buffalo fish	3,178,000	103,000	2,653,000	81,000	374,000	17,000	110,000	4,800	3,500	100	28,000	800	9,700	300		
Carp, German	1,914,000	46,000	1,611,000	38,000	123,000	3,400	64,000	1,700	33,000	700	61,000	1,400	22,000	600		
Catfish and bullheads	209,000	16,000	99,000	6,700	40,000	3,800	2,700	300	36,000	3,300	19,000	1,900	2,800	300		
Crappie	10,000	400	10,000	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Dogfish, or bowfin	47,000	400	43,000	400	1,800	(3)	.....	.....	.....	.....	.....	.....	.....	.....		
Drum, or sheepshead	1,070,000	19,000	107,000	1,700	935,000	17,000	2,000	(3)	15,000	300	2,000	(3)	7,300	200		
Eels	1,600	100	.....	.....	.....	.....	.....	.....	1,500	100	100	(3)	.....	.....		
Perch, yellow	12,000	400	12,000	400	100	(3)	.....	.....	.....	.....	.....	.....	.....	.....		
Pike and pickerel	83,000	4,400	64,000	3,300	15,000	800	300	(3)	.....	.....	3,000	200	800	(3)		
Pike perch (wall-eyed pike)	4,700	400	3,800	300	.....	.....	.....	.....	600	(3)	.....	.....	300	(3)		
Rock bass	800	(3)	800	(3)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Sturgeon, lake	6,300	500	700	100	2,600	300	1,100	100	1,900	100	.....	.....	.....	.....		
Sturgeon, shovelnose	82,000	4,400	40,000	2,200	4,200	200	12,000	800	1,200	100	500	(3)	24,000	1,100		
Caviar	900	600	.....	.....	100	(3)	.....	.....	100	(3)	.....	.....	800	500		
Suckers	72,000	1,500	35,000	600	11,000	200	.....	.....	.....	.....	400	(3)	26,000	700		
Sunfish	73,000	1,700	73,000	1,700	500	(3)	.....	.....	.....	.....	.....	.....	.....	.....		
Frogs	1,200	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,200	200		
Turtles	44,000	1,000	15,000	400	2,200	(3)	.....	.....	.....	.....	5,200	100	22,000	500		
Mussel shells, pearls, and slugs	1,150,000	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,150,000	12,000		
Skins, mink	[4] 100	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[4] 100	400		
Skins, muskrat	[5] 500	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[5] 500	400		

[1] All taken in shore and boat fisheries.

[2] Includes apparatus, with catch, as follows: Crowfoot dredges, 1,130,000 pounds, valued at $12,000; trammel nets, 95,000 pounds, valued at $3,700; mink and muskrat traps, 500 pounds, valued at $700; spears and hooks, 23,000 pounds, valued at $700; and minor apparatus, 20,000 pounds, valued at $200.

[3] Less than $100. [4] 100 skins. [5] 1,400 skins.

TABLE 4.—WISCONSIN—FISHERY PRODUCTS OF LAKE SUPERIOR DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Gill nets.		Pound and trap nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,817,000	$58,000	1,152,000	$32,000	612,000	$24,000	53,000	$3,000
Herring, lake, fresh	135,000	1,100	114,000	900	21,000	300		
Herring, lake, salted	830,000	13,000	602,000	9,800	224,000	3,300	4,400	100
Pike perch (wall-eyed pike)	79,000	6,200	1,000	100	78,000	6,200		
Sturgeon, lake	9,400	800	(2)	(2)	9,400	800		
Suckers, fresh	30,000	500			30,000	500		
Suckers, salted	59,000	1,000	8,300	200	50,000	800	600	(2)
Trout, fresh	375,000	23,000	232,000	15,000	81,000	5,000	40,000	2,400
Trout, salted	9,200	400	9,000	300	200	(2)		
Whitefish, fresh	168,000	10,000	57,000	3,500	104,000	6,400	8,000	500
Whitefish, salted	6,100	200	500	(2)	5,400	200	200	(2)
Whitefish, bluefin	3,300	100	3,300	100				
Whitefish, longjaw, fresh	111,000	1,700	104,000	1,600	7,500	100		
Whitefish, longjaw, smoked	1,900	100	1,900	100				
All other	2,100	100	300	(2)	1,800	100		

[1] Includes seines, with a catch of 13,000 pounds, valued at $600; and lines, with a catch of 40,000 pounds, valued at $2,400.
[2] Less than 100 pounds.
[3] Less than $100.

TABLE 5.—WISCONSIN—PRODUCTS OF VESSEL FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—							
			Gill nets.		Fyke and hoop nets.		Pound and trap nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	8,863,000	$425,000	7,561,000	$349,000	341,000	$6,800	99,000	$6,000	862,000	$63,000
Fish:										
Carp, German	61,000	800	8,000	100	8,600	200			44,000	400
Catfish and bullheads	3,200	100	100	(2)	2,800	100			200	(2)
Herring, lake, fresh	4,129,000	161,000	4,094,000	160,000	200	(2)	35,000	500		
Herring, lake, salted	414,000	6,900	414,000	6,900			1,000	(2)		
Herring, lake, smoked	59,000	5,100	54,000	4,900			5,500	300		
Ling, or lawyer	10,000	100	5,000	100	4,900	(2)			100	(2)
Perch, yellow	731,000	15,000	460,000	11,000	257,000	4,500			14,000	300
Pike and pickerel	51,000	3,600	34,000	2,300	15,000	1,200			1,400	100
Pike perch (wall-eyed pike)	2,400	200	800	(2)						
Suckers	91,000	1,700	20,000	500	51,000	700	1,600	100	20,000	500
Trout, fresh	2,731,000	200,000	2,018,000	139,000			200	(2)		
Trout, salted	4,500	200	4,500	200						
Whitefish	24,000	2,400	12,000	1,200			12,000	1,200		
Whitefish, bluefin	388,000	22,600	388,000	22,000						
Whitefish, longjaw	50,000	1,100	50,000	1,100						
All other	4,800	100	500	(2)	1,700	100	800	(2)	1,800	(2)
Crawfish	109,000	4,700							109,000	4,700

[1] Includes apparatus, with catch, as follows: Lines, 671,000 pounds, valued at $57,000; crawfish pots, 109,000 pounds, valued at $4,700; and seines, 82,000 pounds, valued at $1,200.
[2] Less than $100.

TABLE 6.—WISCONSIN—PRODUCTS OF SHORE AND BOAT FISHERIES: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Pound and trap nets.		Gill nets.		Seines.		Fyke and hoop nets.		Lines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	22,090,000	$642,000	7,990,000	$202,000	4,920,000	$184,000	4,913,000	$141,000	2,108,000	$47,000	462,000	$35,000	1,697,000	$33,000
Fish:														
Black bass	12,000	1,200	400	(2)			7,900	700	2,800	300	1,000	100	200	(2)
Buffalo fish	3,178,000	103,000	374,000	17,000	110,000	4,800	2,653,000	81,000	28,000	800	3,500	100	9,700	300
Carp, German, fresh	2,182,000	51,000	123,000	3,400	64,000	1,700	1,650,000	39,000	148,500	2,900	34,000	800	162,000	3,500
Carp, German, smoked	4,500	700									4,500	700		
Catfish and bullheads	273,000	19,000	45,000	3,900	2,700	300	101,000	6,800	84,000	4,800	36,000	3,300	4,400	400
Crappie	10,000	400					10,000	400						
Dogfish, or bowfin	45,000	400	1,500	(2)			43,000	400	3,300	(2)				
Drum, or sheepshead	1,093,000	20,000	935,000	17,000	2,600	(2)	115,000	1,700	13,000	200	20,000	1,000	7,800	200
Eels	1,600	100							100	(2)	1,500	100		
Herring, lake, fresh	2,917,000	77,000	860,000	16,000	2,011,000	60,000			46,000	600				
Herring, lake, salted	743,000	11,000	540,000	8,300	198,000	3,000	4,400	100						
Herring, lake, smoked	3,862,000	62,000	3,625,000	57,000	227,000	5,000								
Ling, or lawyer	32,000	400	6,600	(2)	3,700	(2)			21,000	300	700	(2)		
Muskallunge	1,300	100					200	(2)	900	100	200	(2)		
Perch, yellow	1,831,000	39,000	229,000	4,300	340,000	11,000	14,000	400	1,224,000	22,000	23,000	1,600	100	(2)
Pike and pickerel	267,000	19,000	37,000	2,400	22,000	1,600	84,000	4,700	92,000	7,800	26,000	2,100	5,700	400
Pike perch (wall-eyed pike)	86,000	6,700	77,000	6,100	4,200	300	3,800	300			600	(2)	200	(2)
Rock bass	5,500	200	1,700	100	100	(2)	800	(2)	3,000	100				
Sturgeon, lake, fresh	28,000	3,300	17,000	1,800	1,100	100	700	100			8,900	1,300		
Sturgeon, lake, smoked	2,500	500									2,500	500		
Sturgeon, shovelnose	82,000	4,400	4,200	200	12,000	800	40,000	2,200	500	(2)	1,200	100	24,000	1,100
Caviar	900	600	100	(2)							100	(2)	800	500
Suckers, fresh	998,000	20,000	172,000	3,600	259,000	7,300	87,000	1,500	424,000	6,500			57,000	1,400
Suckers, salted	123,000	1,900	103,000	1,500	12,000	200	2,900	100	5,800	100				
Sunfish	75,000	1,700	500	(2)			73,000	1,700	1,800	(2)				
Trout, fresh	1,943,000	139,000	514,000	43,000	1,129,000	73,000			2,100	100	298,000	23,000		
Trout, salted	31,000	1,100	14,000	400	17,000	700								
White bass	300	(2)	300	(2)					(2)	(2)				
Whitefish, fresh	257,000	19,000	176,000	13,000	73,000	5,300	8,000	500	100	(2)				
Whitefish, salted	10,000	500	9,100	400	700	(2)	200	(2)						
Whitefish, bluefin	322,000	6,600	64,000	1,300	258,000	5,300								
Whitefish, longjaw, fresh	69,000	1,000	7,500	100	62,000	900								
Whitefish, longjaw, smoked	1,900	100			1,900	100								
Whitefish, Menominee, fresh	90,000	2,300	20,000	600	68,000	1,600			2,100	100				
Whitefish, Menominee, salted	61,000	1,100	30,000	500	30,000	500								
Crawfish	239,000	9,200					500	(2)					238,000	9,200
Frogs	14,000	2,600											14,000	2,600
Turtles	44,000	1,000	2,200	(2)			15,000	400	5,200	100			22,000	500
Mussel shells, pearls, and slugs	1,150,000	12,000											1,150,000	12,000
Skins, mink	[4] 100	400											[4] 100	400
Skins, muskrat	[5] 1,000	600											[5] 1,000	600

[1] Includes apparatus, with catch as follows: Crowfoot dredges, 1,130,000 pounds, valued at $12,000; crawfish pots, 238,000 pounds, valued at $9,200; trammel nets, 261,000 pounds, valued at $7,200; mink and muskrat traps, 1,000 pounds, valued at $1,000, spears and hooks, 25,000 pounds, valued at $1,000; dip nets, 11,000 pounds, valued at $600; and minor apparatus, 31,000 pounds, valued at $2,300.
[2] Less than $100.
[3] Less than 100 pounds.
[4] 100 skins.
[5] 2,000 skins.

TABLE 7.—WISCONSIN—PRODUCTS OF VESSEL FISHERIES OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—											
			Gill nets.		Lines.		Fyke and hoop nets.		Pound and trap nets.		Crawfish pots.		Seines.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	8,262,000	$414,000	6,964,000	$338,000	670,000	$57,000	341,000	$6,800	96,000	$5,800	109,000	$4,700	82,000	$1,300
Fish:														
Carp, German	61,000	800	8,000	100			8,600	200					44,000	400
Catfish and bullheads	3,200	100	100	(1)			2,800	100					200	(1)
Herring, lake, fresh	4,042,000	160,000	4,007,000	160,000			200	(1)	35,000	500				
Herring, lake, smoked	59,000	5,100	54,000	4,900					5,500	300				
Ling, or lawyer	10,000	100	5,000	100	100	(1)	4,900	(1)						
Perch, yellow	731,000	15,000	460,000	11,000			257,000	4,500					14,000	300
Pike and pickerel	51,000	3,600	34,000	2,300			15,000	1,200					1,400	100
Suckers	91,000	1,700	20,000	500			51,000	700	200	(1)			20,000	500
Trout	2,682,000	197,000	1,970,000	136,000	670,000	57,000			42,000	3,800				
Whitefish	22,000	2,300	9,600	1,000					12,000	1,200				
Whitefish, bluefin	388,000	22,000	388,000	22,000										
Whitefish, longjaw	8,000	500	8,000	500										
All other	4,800	100	500	(1)			1,700	100	800	(1)			1,900	(1)
Crawfish	109,000	4,700									109,000	4,700		

[1] Less than $100.

TABLE 8.—WISCONSIN—PRODUCTS OF SHORE AND BOAT FISHERIES OF LAKE MICHIGAN DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—													
			Gill nets.		Pound and trap nets.		Fyke and hoop nets.		Lines.		Trammel nets.		Seines.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	12,915,000	$381,000	4,173,000	$156,000	5,871,000	$136,000	1,985,000	$42,000	330,000	$28,000	166,000	$3,500	127,000	$2,900	263,000	$12,000
Fish:																
Black bass	4,200	500			400	(2)	2,800	300	1,000	100			(2)	(2)		
Carp, German, fresh	267,000	4,900					87,000	1,500	500	(2)	136,000	2,700	40,000	500	3,600	200
Carp, German, smoked	4,500	700							4,500	700						
Catfish and bullheads	74,000	3,200			5,000	100	65,000	2,900	800	100	1,100	100	1,700	100	500	(2)
Drum, or sheepshead	23,000	900					9,600	100	5,000	700	200	(2)	8,000	(2)	100	(2)
Herring, lake, fresh	2,869,000	76,000	1,984,000	60,000	839,000	16,000	46,000	600								
Herring, lake, salted	327,000	5,200	10,000	200	317,000	5,100										
Herring, lake, smoked	3,862,000	62,000	237,000	5,000	3,625,000	57,000										
Ling, or lawyer	32,000	400	3,700	(2)	6,600	(2)	21,000	300	700	(2)						
Muskellunge	1,300	100					900	100	200	(2)			200	(2)		
Perch, yellow	1,819,000	39,000	340,000	11,000	229,000	4,300	1,224,000	22,000	23,000	1,600	100	(2)	2,500	(2)		
Pike and pickerel	183,000	15,000	22,000	1,600	22,000	1,500	89,000	7,700	26,000	2,100	5,000	300	20,000	1,400		
Pike perch (wall-eyed pike)	4,000	300	4,000	300												
Rock bass	4,700	200	100	(2)	1,700	100	3,000	100								
Sturgeon, lake, fresh	12,000	2,000			4,900	700			7,000	1,200						
Sturgeon, lake, smoked	2,500	500							2,500	500						
Suckers, fresh	886,000	18,000	259,000	7,300	131,000	2,900	423,000	6,500			24,000	400	52,000	900	6,800	300
Suckers, salted	64,000	800	3,400	(2)	53,000	700	5,800	100					2,300	(2)		
Trout, fresh	1,620,000	120,000	925,000	61,000	433,000	38,000	2,100	100	259,000	21,000						
Trout, salted	26,000	900	12,000	500	14,000	400										
Whitefish, fresh	91,000	8,700	19,000	2,000	72,000	6,700	100	(2)								
Whitefish, salted	3,900	200	200	(2)	3,700	200										
Whitefish, bluefin	319,000	6,300	255,000	5,200	64,000	1,300										
Whitefish, Menominee, fresh	89,000	2,300	68,000	1,600	19,000	600	2,100	100								
Whitefish, Menominee, salted	60,000	1,100	30,000	500	30,000	500										
All other	3,500	100			300	(2)	3,200	(2)								
Crawfish	239,000	9,200											500	(2)	238,000	9,200
Frogs	13,000	2,400													13,000	2,400
Skins, mink and muskrat	[4] 500	200													[4] 500	200

[1] Includes apparatus, with catch, as follows: Crawfish pots, 238,000 pounds, valued at $9,200; dip nets, 11,000 pounds, valued at $600; spears and hooks, 2,200 pounds, valued at $300; mink and muskrat traps, 500 pounds, valued at $200; and minor apparatus, 11,000 pounds, valued at $2,100.
[2] Less than $100. [3] Less than 100 pounds. [4] 1,600 skins.

TABLE 9.—WISCONSIN—PRODUCTS OF VESSEL FISHERIES OF LAKE SUPERIOR DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—			
			Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	601,000	$11,000	597,000	$11,000	4,100	$200
Herring, lake, fresh	87,000	500	87,000	500		
Herring, lake, salted	414,000	6,900	414,000	6,900	1,000	(2)
Pike perch (wall-eyed pike)	2,400	200	800	(2)	1,600	100
Trout, fresh	49,000	3,000	47,000	2,900	1,500	100
Trout, salted	4,500	200	4,500	200		
Whitefish	2,500	200	2,500	200		
Whitefish, longjaw	42,000	600	42,000	600		

[1] Includes pound nets, with a catch of 3,100 pounds, valued at $200; and lines, with a catch of 1,000 pounds, valued at $100. [2] Less than $100.

TABLE 10.—WISCONSIN—PRODUCTS OF SHORE AND BOAT FISHERIES OF LAKE SUPERIOR DISTRICT: 1908.

SPECIES.	TOTAL.		PRODUCT CAUGHT BY—					
			Pound and trap nets.		Gill nets.		All other apparatus.[1]	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	1,216,000	$47,000	609,000	$23,000	555,000	$20,000	52,000	$2,900
Herring, lake, fresh	48,000	600	21,000	300	27,000	300		
Herring, lake, salted	415,000	6,200	222,000	3,200	188,000	2,900	4,400	100
Pike perch (wall-eyed pike)	77,000	6,100	77,000	6,100	200	(2)		
Sturgeon, lake	9,400	800	9,400	800	(3)	(2)		
Suckers, fresh	30,000	500	30,000	500				
Suckers, salted	59,000	1,000	50,000	800	8,300	200	600	(2)
Trout, fresh	324,000	20,000	80,000	5,000	204,000	12,000	39,000	2,400
Trout, salted	4,700	200	200	(2)	4,400	200		
Whitefish, fresh	166,000	10,000	104,000	6,400	54,000	3,300	8,000	500
Whitefish, salted	6,100	200	5,400	200	500	(2)	200	(2)
Whitefish, bluefin	3,300	100			3,300	100		
Whitefish, longjaw, fresh	69,000	1,000	7,500	100	62,000	900		
Whitefish, longjaw, smoked	1,900	100			1,900	100		
All other	2,100	100	1,800	100	300	(2)		

[1] Includes lines, with a catch of 39,000 pounds, valued at $2,400; and seines, with a catch of 13,000 pounds, valued at $600.
[2] Less than $100.
[3] Less than 100 pounds.

CHAPTER VIII.

CANNING AND PRESERVING.

Comparison with earlier canvasses.—The earliest year for which separate statistics of the industries of canning and preserving fish and oysters are available is 1870. At the census for that year there were reported under the heads "Fish, cured and packed" and "Oysters, canned," 92 establishments which employed in all 2,441 persons and had a combined capital of $966,000 and products valued at $3,064,000. No figures are obtainable for 1880, as the reports for the canning and preserving of fish and oysters in that year were included with the reports of other industries. The following table presents a comparative summary of the statistics of establishments engaged in canning and preserving fish and oysters in the United States, exclusive of Alaska, as returned at the censuses of manufactures in 1890, 1900, and 1905, and the census of fisheries in 1908. The figures obtained at the censuses of manufactures represent industries classified under the head of "Canning and preserving, fish," and "Canning and preserving, oysters."

Fishery products are preserved to some extent in establishments engaged primarily in the manufacture of other products. It is also true that, in the censuses of manufactures, products other than those of the fisheries are included with industries classified as "Canning and preserving, fish" and "Canning and preserving, oysters." In the census of fisheries for 1908, reports were secured covering only that part of the operations of those establishments which pertained to the fisheries. For these reasons the figures for 1908 are not strictly comparable with those for prior years.

	1908	1905	1900	1890	PER CENT OF INCREASE. 1905 to 1908	1900 to 1905	1890 to 1900
Number of establishments[1]	690	379	333	126	82	14	164
Capital	$24,124,000	$12,177,000	$16,693,000	$4,294,000	98	[2] 27	289
Persons employed[3]	16,303	9,241	13,185	8,716	76	[2] 30	50
Salaried employees	1,054	796	887	243	32	30	142
Wage-earners	15,251	8,445	12,298	8,473	81	[2] 34	49
Men 16 years and over	8,918	4,462	8,228	5,269	103	[2] 46	56
Women 16 years and over	5,184	2,972	3,037	2,543	75	[2] 2	19
Children under 16 years	1,149	1,071	1,333	661	7	[2] 20	102
Salaries and wages	$5,399,000	$3,542,000	$3,897,000	$1,961,000	52	[2] 6	94
Salaries	$1,152,000	$702,000	$592,000	$190,000	64	20	207
Wages	$4,247,000	$2,840,000	$3,215,000	$1,771,000	50	[2] 12	82
Men 16 years and over	$3,175,000	$2,079,000	$2,641,000	$1,290,000	53	[2] 21	105
Women 16 years and over	$946,000	$634,000	$451,000	$437,000	49	47	[2] 1
Children under 16 years	$126,000	$127,000	$143,000	$43,000	1	[2] 12	231
Value of products	$28,401,000	$22,628,000	$19,431,000	$10,233,000	26	16	90
Fish, oysters, etc.	$24,885,000	$21,598,000	$17,262,000	(4)	16	25	.....
All other products	$3,517,000	$1,090,000	$2,169,000	(4)	123	[2] 50	.....

[1] Exclusive of the canneries and salteries of Alaska, for statistics of which see Report of the Bureau of Fisheries, Doc. No. 645.
[2] Decrease.
[3] Not including proprietors and firm members except in 1890 when they were not reported separately.
[4] Not reported separately.

In the number of establishments and in the value of products there were increases during each period. From 1905 to 1908 the former increased 82 per cent and the latter 20 per cent. The apparent decreases from 1900 to 1905 in the number of wage-earners and in wages may be attributed to a difference in the methods used at the two censuses for reporting contract labor, which is extensively employed, especially in the salmon canneries. In 1900 contract employees were reported as wage-earners, while in 1905 and in 1908 their number was not reported, the wage item being included under the head of "Miscellaneous expenses" in 1905 and under the head of "Cost of material" in 1908. From 1905 to 1908 the number of wage-earners increased 81 per cent, but in the amount of wages paid the increase was only 50 per cent. In capital invested there was a decrease of $4,516,000 from 1900 to 1905, which resulted principally from a loss of $6,312,000 in Maine, apparently due to a reorganization of some of the larger establishments, and a loss of $1,012,000 in Oregon. From 1905 to 1908 the amount of capital increased 98 per cent. The investment of 1908 represents an outlay of $3,417,000 for land, $10,288,000 for buildings, and cash amounting to $10,420,000.

Statistics, by geographic divisions.—The table following shows, for the principal items of the statistics, the distribution by geographic divisions. These divisions correspond with those which appear in the preceding chapters on fishery products.

	United States.	Atlantic coast division.	Gulf of Mexico division.	Pacific coast division.	Great Lakes division.	Mississippi River division.
Number of establishments[1]	690	464	36	99	83	8
Capital	$24,124,000	$11,937,000	$2,465,000	$8,713,000	$1,003,000	$5,200
Land	$3,417,000	$1,462,000	$242,000	$1,440,000	$271,000	$2,200
Buildings	$10,288,000	$4,878,000	$1,331,000	$3,791,000	$287,000	$1,200
Cash	$10,420,000	$5,598,000	$893,000	$3,483,000	$445,000	$1,800
Persons employed	17,202	11,683	3,105	2,103	296	15
Proprietors and firm members	897	646	72	90	77	12
Salaried employees	1,054	618	147	244	45	.....
Wage-earners	15,251	10,419	2,886	1,769	174	3
Men 16 years and over	8,918	6,084	1,103	1,554	174	3
Women 16 years and over	5,184	3,632	1,370	182	.....	.....
Children under 16 years	1,149	703	413	33	.....	.....
Salaries and wages	$5,399,000	$3,320,000	$620,000	$1,316,000	$142,000	$1,700
Salaries	$1,152,000	$642,000	$130,000	$333,000	$47,000	.....
Wages	$4,247,000	$2,678,000	$490,000	$983,000	$94,000	$1,700
Men 16 years and over	$3,175,000	$1,905,000	$257,000	$919,000	$94,000	$1,700
Women 16 years and over	$946,000	$701,000	$185,000	$59,000	.....	.....
Children under 16 years	$126,000	$74,000	$47,000	$4,900	.....	.....
Products:						
Quantity (pounds)	468,947,000	359,558,000	26,461,000	73,257,000	9,535,000	137,000
Value	$28,401,000	$18,741,000	$2,404,000	$6,450,000	$788,000	$19,000

[1] Exclusive of the canneries and salteries of Alaska, for the statistics of which see Report of the Bureau of Fisheries, Doc. No. 645.

The Atlantic coast division ranked first in the industry, reporting nearly half of the capital and approximately two-thirds of the number of establishments and of the value of products. The Pacific coast division was second in the number of establishments, capital, and value of products, and the Gulf of Mexico division was second in the number of persons employed. The schedule used in the canvass of the packing and canning establishments called for the quantity of fresh fish received at the plants, to be reported in pounds. The data furnished as a result of this inquiry were, however, so incomplete and unsatisfactory that no use could be made of them.

Products, by kind.—The next tabular statement gives the quantity and value of the principal kinds of products prepared, arranged in order of value, together with the proportion which each contributed to the value of all products.

Salmon, sardines, cod, and oysters contributed slightly more than two-thirds of the value of the entire output.

KIND OF PRODUCT.	CANNING AND PRESERVING, FISH AND OYSTERS—PRODUCTS: 1908. Quantity. Pounds.	Quantity. Per cent distribution.	Value. Amount.	Value. Per cent distribution.
Total	468,947,000	100	$28,401,000	100
Fish, oysters, etc.	340,086,000	73	24,885,000	88
Salmon	57,461,000	12	5,966,000	21
Sardines	72,323,000	15	5,311,000	19
Cod	60,979,000	13	4,557,000	16
Oysters	46,593,000	10	3,428,000	12
Shrimp and prawn	3,772,000	1	742,000	3
Herring	18,204,000	4	667,000	2
Haddock	12,362,000	3	594,000	2
Lake herring	6,261,000	1	480,000	2
All other	62,130,000	13	3,139,000	11
All other	128,861,000	27	3,517,000	12

The following table distributes the value of products by species and by geographic divisions:

KIND OF PRODUCT.	CANNING AND PRESERVING, FISH AND OYSTERS—VALUE OF PRODUCTS: 1908. United States.	Atlantic coast division.	Pacific coast division.	Gulf of Mexico division.	Great Lakes and Mississippi River divisions.
Total	$28,401,000	$18,741,000	$6,450,000	$2,404,000	$807,000
Fish, oysters, etc.	24,885,000	15,357,000	6,385,000	2,338,000	804,000
Alewives and roe	287,000	287,000	.....	.....	.....
Cod	4,557,000	4,101,000	456,000	.....	.....
Haddock	594,000	594,000	.....	.....	.....
Hake	214,000	214,000	100	.....	.....
Halibut	157,000	85,000	72,000	.....	.....
Herring	667,000	664,000	3,200	.....	.....
Lake herring	480,000	.....	.....	.....	480,000
Mackerel	462,000	455,000	7,500	.....	.....
Pollack	169,000	169,000	.....	.....	.....
Salmon	5,966,000	550,000	5,345,000	.....	71,000
Sardines	5,311,000	5,103,000	207,000	.....	1,000
Sturgeon and caviar	468,000	394,000	13,000	.....	[1] 61,000
Whitefish	263,000	188,000	.....	.....	[2] 75,000
Clams	421,000	282,000	86,000	54,000	.....
Oysters	3,428,000	1,794,000	106,000	1,528,000	.....
Crabs	166,000	147,000	19,000	.....	.....
Shrimp and prawn	742,000	10,000	.....	731,000	.....
All other	531,000	321,000	70,000	25,000	115,000
All other	3,517,000	3,384,000	65,000	65,000	2,500
Fertilizer	1,223,000	1,207,000	14,000	11,000	900
Glue	631,000	611,000	20,000	.....	.....
Oil	854,000	844,000	9,700	.....	500
All other	798,000	721,000	21,000	54,000	1,100

[1] Includes a value of $17,000 reported for products from the Mississippi River division
[2] Includes a value of $2,000 reported for products from the Mississippi River division.

The Atlantic coast division reported 66 per cent of the total value of products; the Pacific coast division, 23 per cent; the Gulf of Mexico division, 8 per cent; the Great Lakes division, nearly 3 per cent; and the Mississippi River division, less than 1 per cent. Of the value of all salmon treated in continental United States, 90 per cent represents the value of salmon prepared by the canneries and packing houses of the Pacific coast states. The Atlantic coast division is credited with 96 per cent of the sardines as measured by value, 90 per cent of the cod, 52 per cent of the oysters, and 84 per cent of the sturgeon prepared in the United States. Nearly all of the hake, mackerel, and herring (exclusive of lake herring), and all of the alewives, haddock, and pollack were put up in the Atlantic coast states. The Gulf states reported 45 per cent of the oyster product and almost the entire shrimp and prawn product. All the lake herring output was from the canning houses of the Great Lakes division.

Table 1, on page 286, gives the value of the food products, by species and by method of treatment. The canned product exceeded in value the product treated by any other method used in preparing fishery products for market. Of the total value of food products—$24,885,000—57 per cent represents canned product; 14 per cent, boned; 11 per cent, smoked; 10 per cent, salted; 7 per cent, pickled; and 1 per cent, frozen.

Table 2, on page 287, distributes the quantity and value of all products of the industry according to method of treatment and kind of product, for continental United States and for each geographic division. The by-products of the canneries and packing houses, consisting of fertilizer, oil, glue, etc., had a value in 1908 of $3,517,000. On account of the importance of some of these as articles of commerce, they are shown in detail, by geographic divisions and by states, in the following table:

DIVISION AND STATE.	CANNING AND PRESERVING, FISH AND OYSTERS—VALUE OF PRODUCTS OTHER THAN FOOD PRODUCTS: 1908.				
	Total.	Fertilizer.	Oil.	Glue and isinglass.	All other products.
United States	$3,517,000	$1,233,000	$854,000	[1] $782,000	$648,000
Atlantic coast division	3,384,000	1,207,000	844,000	[1] 762,000	571,000
Virginia	1,032,000	618,000	328,000	.....	87,000
North Carolina	116,000	90,000	23,000	.....	2,100
Massachusetts	1,249,000	77,000	123,000	[1] 753,000	296,000
New Jersey	63,000	47,000	16,000	.....	.....
Maryland	81,000	44,000	9,800	.....	27,000
Maine	143,000	19,000	20,000	9,000	95,000
All other states	699,000	312,000	324,000	.....	64,000
Pacific coast division	65,000	14,000	9,700	20,000	21,000
California	34,000	2,400	200	20,000	11,000
Oregon	9,400	3,000	6,000	.....	400
Washington	21,000	8,800	3,500	.....	9,000
Gulf of Mexico division	65,000	11,000	.....	.....	54,000
Louisiana	32,000	1,100	.....	.....	31,000
Mississippi	33,000	9,700	.....	.....	24,000
Florida	100	.....	.....	.....	100
Great Lakes division	2,500	900	500	.....	1,100

[1] Includes a value of $150,000 reported for isinglass.

Of the total value of products other than food reported by the fish and oyster canneries and packing houses, 35 per cent represents the value of the fertilizer manufactured. The Atlantic coast states contributed 98 per cent and Virginia alone 50 per cent of the value of the fertilizer produced by these establishments.

Another important by-product of this industry was fish oil, for which a value of $854,000 was reported, or 24 per cent of the total for products other than food. Virginia led, with an output valued at 38 per cent of the value of all fish oil reported by the establishments under consideration. The manufacture of fish glue was confined to three states—Massachusetts, Maine, and California—95 per cent of the value of the output being credited to Massachusetts. All the isinglass reported, valued at $150,000, was from Massachusetts.

The preceding statistics are confined to the fish canning and preserving establishments of continental United States, and do not include Alaska. In the remainder of the chapter, which is devoted to a presentation in detail of the data for the leading products, statistics of the Alaskan output have been included.

Salmon.—The table following shows, for the United States, inclusive of Alaska, the quantity and value of the salmon treated in 1908, distributed according to method of treatment by states.

DIVISION AND STATE OR TERRITORY.	SALMON PRODUCT OF CANNERIES AND PACKING HOUSES: 1908.					
	Total.	Canned.	Pickled.	Smoked.	Salted, including mild-cured.	Frozen and fresh.
	QUANTITY (POUNDS).					
United States, including Alaska	256,414,000	221,107,000	19,053,000	4,297,000	8,540,000	3,418,000
Pacific coast division	252,982,000	221,107,000	19,053,000	971,000	8,434,000	3,418,000
Alaska	198,953,000	182,488,000	[1] 13,713,000	48,000	1,646,000	[2] 1,057,000
Washington	28,954,000	22,091,000	780,000	800,000	4,457,000	825,000
Oregon	21,914,000	16,339,000	3,959,000	80,000	.....	1,536,000
California	3,162,000	189,000	600,000	42,000	2,331,000	.....
Eastern and Central divisions	3,432,000	.....	.....	3,327,000	105,000	.....
New York	2,504,000	.....	.....	2,504,000	.....	.....
All other states	928,000	.....	.....	823,000	105,000	.....
Alaska	198,953,050	182,488,000	13,713,000	48,000	1,646,000	1,057,000
All states	57,461,000	38,618,000	5,339,000	4,249,000	6,893,000	2,361,000
	VALUE.					
United States, including Alaska	$16,638,000	$14,132,000	$1,053,000	$678,000	$541,000	$234,000
Pacific coast division	16,017,000	14,132,000	1,053,000	60,000	538,000	234,000
Alaska	10,672,000	10,186,000	[3] 353,000	4,000	79,000	[4] 51,000
Washington	2,731,000	2,362,000	76,000	39,000	199,000	55,000
Oregon	2,256,000	1,565,000	552,000	11,000	.....	129,000
California	359,000	20,000	72,000	6,300	261,000	.....
Eastern and Central divisions	621,000	.....	.....	618,000	2,800	.....
New York	460,000	.....	.....	460,000	.....	.....
All other states	161,000	.....	.....	158,000	2,800	.....
Alaska	10,672,000	10,186,000	353,000	4,000	79,000	51,000
All states	5,966,000	3,946,000	700,000	674,000	462,000	183,000

[1] Includes 4,457,000 pounds of salmon bellies.
[2] Includes 888,000 pounds of fresh salmon.
[3] Includes a value of $59,000 reported for salmon bellies.
[4] Includes a value of $48,000 reported for fresh salmon.

The total quantity canned or preserved in 1908 was 256,414,000 pounds, valued at $16,638,000. Alaska easily ranked first, reporting 78 per cent of the quantity and 64 per cent of the value. Washington, with 11 per cent of the quantity and 16 per cent of the value, and Oregon, with 9 per cent of the quantity and 14 per cent of the value, ranked respectively second and third.

The methods of treatment employed vary in the different sections of the country; for instance, 74 per cent of the California product was salted, while practically all of that prepared in the Eastern and Central states was smoked. Of the total product of salmon treated in the United States, including Alaska, 86 per cent was canned.

The following tabular statement gives comparative statistics as to the quantity and value of the salmon treated in the United States, inclusive of Alaska, by states, arranged in the order of the value in 1908:

STATE OR TERRITORY.	SALMON PRODUCT OF CANNERIES AND PACKING HOUSES.					
	1908		1905		1900	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States, including Alaska	256,414,000	$16,638,000	190,529,000	$13,633,000	116,621,000	$9,423,000
Alaska	198,953,000	10,672,000	126,370,000	7,731,000	51,992,000	3,608,000
Washington	28,954,000	2,731,000	32,034,000	2,909,000	44,317,000	3,840,000
Oregon	21,914,000	2,256,000	27,262,000	2,392,000	16,165,000	1,665,000
California	3,162,000	359,000	(1)	(1)	3,679,000	270,000
New York	2,504,000	460,000	1,881,000	320,000	97,000	14,000
All other states	928,000	161,000	2,982,000	281,000	371,000	27,000

[1] Included under "All other states."

Sardines.—Since 1875, when the first factory for canning sardines in the United States was started at Eastport, Me., that state has held a practical monopoly of the industry.

The tabular statement following gives the quantity and value of sardines packed, by states, for 1900, 1905, and 1908.

STATE.	SARDINES PACKED.					
	1908		1905		1900	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	72,203,000	$5,309,000	87,225,000	$4,380,000	44,951,000	$4,212,000
Maine	[1] 68,216,000	[1] 4,732,000	86,219,000	4,291,000	44,420,000	4,050,000
Massachusetts	2,322,000	369,000	(2)	(2)	142,000	84,000
California	1,634,000	207,000	800,000	78,000	389,000	79,000
New York	32,000	1,900	146,000	11,000	(2)	(2)

[1] Not including 120,000 pounds of "Russian sardines," valued at $2,100.

[2] None reported.

Cod.—The cod product treated in 1908 amounted to 66,382,000 pounds, valued at $4,692,000. The following table shows the quantity and value of this product according to the method of treatment, for the United States, including Alaska, and by states:

DIVISION AND STATE OR TERRITORY.	COD PACKED: 1908.				
	Total.	Boned.	Salted.	Pickled.	Frozen, fresh, and smoked.
	QUANTITY (POUNDS).				
United States, including Alaska	66,382,000	32,784,000	27,776,000	5,785,000	37,000
Atlantic coast division	49,526,000	32,557,000	15,883,000	1,083,000	3,000
Massachusetts	41,337,000	31,968,000	8,369,000	1,000,000	.....
Maine	8,097,000	589,000	7,426,000	83,000	.....
Pennsylvania	91,000	.....	88,000	.....	3,000
Pacific coast division	16,856,000	227,000	11,893,000	4,702,000	34,000
Washington	4,551,000	227,000	4,324,000	.....	.....
California	6,902,000	.....	2,200,000	4,702,000	.....
Alaska	5,403,000	.....	5,369,000	.....	34,000
All states	60,979,000	32,784,000	22,407,000	5,785,000	3,000
Alaska	5,403,000	.....	5,369,000	.....	34,000
	VALUE.				
United States, including Alaska	$4,692,000	$3,250,000	$1,237,000	$202,000	$2,800
Atlantic coast division	4,101,000	3,238,000	812,000	51,000	200
Massachusetts	3,726,000	3,179,000	497,000	50,000	.....
Maine	365,000	59,000	305,000	1,400	.....
Pennsylvania	10,000	.....	9,900	.....	200
Pacific coast division	591,000	12,000	426,000	150,000	2,600
Washington	229,000	12,000	217,000	.....	.....
California	227,000	.....	77,000	150,000	.....
Alaska	135,000	.....	132,000	.....	2,600
All states	4,557,000	3,250,000	1,105,000	202,000	200
Alaska	135,000	.....	132,000	.....	2,600

The value reported for 1908 represents an increase of $1,678,000, or more than 50 per cent, over the value reported for 1905, which was $3,013,000. In 1900 the product was valued at $3,109,000. The next table shows, by geographic divisions and by states, the quantity and value of cod reported by canning and packing establishments in the United States, including Alaska, for 1900, 1905, and 1908.

No figures are shown for Alaska for 1905, but a comparison of the figures for 1900 and 1908 reveals an increase of 685 per cent in the quantity and of 382 per cent in the value of the cod prepared by the canneries and salteries of this territory.

The product of Massachusetts represented 62 per cent of the total quantity and 79 per cent of the total value of cod treated in canneries and packing houses. Maine reported a value of $365,000; Washington, $229,000; California, $227,000; Alaska, $135,000; and Pennsylvania, $10,000. There seems to be a rapidly growing demand for boned cod. While but 49 per cent of the total amount in 1908 was boned, the value of the product thus treated formed 69 per cent of the total value. In Washington nearly all of the cod was salted, and in California about two-thirds was pickled and the rest salted.

DIVISION AND STATE OR TERRITORY.	COD PACKED.					
	1908		1905		1900	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States, including Alaska	66,382,000	$4,692,000	48,758,000	$3,013,000	65,419,000	$3,109,000
Atlantic coast division	49,526,000	4,101,000	40,620,000	2,655,000	57,088,000	2,628,000
Massachusetts	41,337,000	3,726,000	37,913,000	2,511,000	48,501,000	2,545,000
Maine	8,097,000	365,000	2,682,000	141,000	8,535,000	80,000
All other states	91,000	10,000	24,000	2,200	52,000	3,100
Pacific coast division	16,856,000	591,000	8,138,000	359,000	8,330,000	480,000
Washington	4,551,000	229,000	877,000	49,000	954,000	45,000
California	6,902,000	227,000	7,261,000	309,000	6,688,000	407,000
Alaska	5,403,000	135,000	.....	.....	685,000	28,000
All states	60,979,000	4,557,000	48,758,000	3,013,000	64,731,000	3,081,000
Alaska	5,403,000	135,000	.....	.....	685,000	28,000

Oysters.—The following table gives the canned-oyster product, by states, for 1908:

DIVISION AND STATE.	OYSTERS CANNED: 1908.	
	Quantity (pounds).	Value.
United States	46,593,000	$3,428,000
Atlantic coast division	25,924,000	1,794,000
Maryland	7,651,000	599,000
South Carolina	9,426,000	525,000
Georgia	4,853,000	374,000
Virginia	1,856,000	163,000
North Carolina	1,655,000	70,000
Florida	1,083,000	62,000
Gulf of Mexico division	20,226,000	1,528,000
Louisiana	9,969,000	770,000
Mississippi	7,835,000	625,000
Florida	2,422,000	134,000
Pacific coast division	444,000	106,000
Washington	413,000	100,000
Oregon	30,000	6,100

Louisiana held first place in the value of oysters canned, followed by Mississippi, Maryland, and South Carolina, in the order named. In 1905 Mississippi ranked first, Maryland second, South Carolina third, and Louisiana fourth. In 1900 Maryland was first and Mississippi second. The next tabular statement shows the quantity and value of the canned oyster product for 1900, 1905, and 1908, by states ranked according to the value reported in 1908.

The value of the canned oyster product was $371,000 less in 1908 than in 1905, but it was greater than in 1900 by $1,893,000, or 123 per cent. The decrease from 1905 to 1908 occurred principally in Mississippi and North Carolina.

Shrimp and prawn.—In 1908, as in earlier years, practically all these crustaceans were packed in Louisiana and Mississippi, the former reporting 54 per cent and the latter 44 per cent of the total value of product.

STATE.	OYSTERS CANNED.					
	1908		1905		1900	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	46,593,000	$3,428,000	59,249,000	$3,799,000	20,792,000	$1,536,000
Louisiana	9,969,000	770,000	7,126,000	507,000	1,273,000	72,000
Mississippi	7,835,000	625,000	21,952,000	1,341,000	6,078,000	495,000
Maryland	7,651,000	599,000	6,666,000	549,000	6,916,000	570,000
South Carolina	9,426,000	525,000	9,251,000	530,000	(1)	(1)
Georgia	4,853,000	374,000	4,794,000	257,000	(1)	(1)
Florida	3,505,000	195,000	1,802,000	126,000	1,304,000	96,000
Virginia	1,856,000	163,000	(1)	(1)	(1)	(1)
Washington	413,000	100,000	(2)	(2)	50,000	17,000
North Carolina	1,055,000	70,000	2,526,000	144,000	(1)	(1)
Oregon	30,000	6,100	(1)	(1)	(2)	(2)
All other states	.....	.....	5,132,000	346,000	4,972,000	286,000

[1] Included in the total for "All other states."

[2] None reported.

The tabular statement following gives the quantity and value of the preserved shrimp and prawn product in 1908, distributed by method of treatment and by states.

STATE.	SHRIMP AND PRAWN PRESERVED: 1908.					
	Total.		Canned.		Dried and pickled.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	3,772,000	$742,000	3,273,000	$657,000	500,000	$85,000
Louisiana	1,986,000	403,000	1,644,000	334,000	[1] 342,000	69,000
Mississippi	1,704,000	329,000	1,625,000	322,000	[2] 79,000	6,600
Florida	75,000	9,000			[2] 75,000	9,000
South Carolina	8,300	1,000	3,300	500	[2] 4,800	500
Massachusetts	400	100	400	100		

[1] Dried. [2] Pickled.

The quantity and value of the preserved shrimp and prawn product, as reported at the canvasses of 1900, 1905, and 1908, are shown at top of next column.

STATE.	SHRIMP AND PRAWN PRESERVED.					
	1908		1905		1900	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
United States	3,772,000	$742,000	5,087,000	$479,000	1,929,000	$226,000
Louisiana	1,986,000	403,000	3,762,000	346,000	515,000	80,000
Mississippi	1,704,000	329,000	1,315,000	132,000	1,313,000	136,000
All other states	83,000	10,000	11,000	1,200	102,000	9,800

Although the quantity preserved in the United States in 1908 was less than in 1905, the value of the product showed a large increase. Compared with the figures for 1900, there is shown an increase of 96 per cent in quantity and 228 per cent in value.

TABLE 1.—CANNING AND PRESERVING, FISH AND OYSTERS—VALUE OF FOOD PRODUCTS: 1908.

KIND OF PRODUCT.	CANNING AND PRESERVING, FISH AND OYSTERS—VALUE OF FOOD PRODUCTS: 1908.						
	Total.	Canned.	Boned.	Smoked.	Salted, including mild-cured.	Pickled.	Frozen and fresh.
Total	$24,885,000	$14,142,000	$3,526,000	$2,818,000	$2,386,000	$1,694,000	$318,000
Fish:							
Alewives and roe	287,000	66,000		7,400		214,000	
Cod	4,557,000		3,250,000		1,105,000	202,000	200
Cusk	76,000		11,000		65,000	1,000	
Haddock	894,000		68,000	308,000	183,000	35,000	
Hake	214,000		35,000		179,000	100	
Halibut	157,000			114,000	20,000	[1] 200	22,000
Herring	667,000	8,400	123,000	451,000		74,000	10,000
Lake herring	480,000			426,000	16,000	4,000	33,000
Mackerel	462,000	48,000		13,000		402,000	
Mullet	64,000	3,000			61,000		
Pollack	169,000		40,000	200	128,000	200	
Salmon	5,966,000	3,946,000		674,000	462,000	700,000	183,000
Sardines	5,311,000	5,307,000		100	2,100	1,900	
Sturgeon and caviar	468,000	3,400		453,000			12,000
Whitefish	263,000			257,000	4,100	200	1,900
Clams	421,000	412,000				8,600	
Oysters	3,428,000	3,428,000					
Crabs	166,000	166,000					
Shrimp and prawn	742,000	657,000			69,000	16,000	
All other	391,000	97,000		113,000	92,000	34,000	56,000

[1] Value of halibut fins.

TABLE 2.—CANNING AND PRESERVING, FISH AND OYSTERS—PRODUCTS, BY GEOGRAPHIC DIVISIONS, METHOD OF TREATMENT, AND KIND: 1908.

METHOD OF TREATMENT AND KIND OF PRODUCT.	UNITED STATES.		CANNING AND PRESERVING, FISH AND OYSTERS—PRODUCTS: 1908.									
			Atlantic coast division.		Pacific coast division.		Gulf of Mexico division.		Great Lakes division.		Mississippi River division.	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total	468,964,000	$28,401,000	359,558,000	$18,741,000	73,257,000	$6,450,000	26,461,000	$2,494,000	9,551,000	$788,000	137,000	$19,000
Canned	109,467,000	14,142,000	102,751,000	7,498,000	41,657,000	4,381,000	25,056,000	2,259,000			2,600	3,300
Sardines	72,168,000	5,307,000	70,538,000	5,101,000	1,630,000	206,000						
Salmon	38,618,000	3,946,000			38,618,000	3,946,000						
Oysters	46,593,000	3,428,000	25,924,000	1,794,000	444,000	106,000	20,226,000	1,528,000				
Shrimp	3,273,000	657,000	3,000	600			3,269,000	656,000				
Clams	5,276,000	412,000	3,283,000	273,000	640,000	86,000	1,353,000	54,000				
Crabs	789,000	166,000	720,000	147,000	69,000	19,000						
All other	2,749,000	225,000	2,283,000	183,000	256,000	17,000	209,000	21,000			2,600	3,300
Boned	38,307,000	3,526,000	38,080,000	3,514,000	227,000	12,000						
Cod	32,784,000	3,250,000	32,557,000	3,238,000	227,000	12,000						
Herring	1,372,000	123,000	1,372,000	123,000								
Haddock	2,080,000	68,000	2,080,000	68,000								
Pollack	933,000	40,000	933,000	40,000								
Hake	827,000	35,000	827,000	35,000								
Cusk	311,000	11,000	311,000	11,000								
Smoked	32,003,000	2,818,000	23,912,000	2,037,000	1,460,000	95,000			6,496,000	670,000	134,000	15,000
Salmon	4,249,000	674,000	2,975,000	547,000	923,000	56,000			352,000	71,000		
Sturgeon	1,317,000	453,000	1,029,000	394,000	8,100	1,500			168,000	44,000	112,000	13,000
Herring	11,939,000	451,000	11,840,000	449,000	98,000	1,900						
Lake herring	4,562,000	426,000							4,562,000	426,000		
Haddock	5,192,000	308,000	5,192,000	308,000								
Whitefish	1,666,000	257,000	979,000	188,000					665,000	67,000	22,000	2,000
Halibut	1,259,000	114,000	851,000	81,000	408,000	34,000						
All other	1,819,000	134,000	1,046,000	70,000	23,000	1,600			750,000	62,000		
Salted, including mild-cured	54,745,000	2,386,000	38,889,000	1,491,000	14,495,000	796,000	377,000	72,000	984,000	28,000		
Cod	22,407,000	1,105,000	15,883,000	812,000	6,524,000	294,000						
Salmon	6,893,000	462,000	105,000	2,800	6,788,000	459,000						
Haddock	4,430,000	183,000	4,430,000	183,000								
Hake	8,628,000	179,000	8,626,000	179,000	2,000	100						
Pollack	5,278,000	128,000	5,278,000	128,000								
Shrimp	342,000	69,000					342,000	69,000				
Cusk	1,595,000	65,000	1,595,000	65,000								
Mullet	1,118,000	61,000	1,118,000	61,000								
All other	4,054,000	134,000	1,854,000	60,000	1,181,000	43,000	35,000	3,500	984,000	28,000		
Pickled	39,919,000	1,694,000	29,122,000	805,000	10,643,000	875,000	79,000	6,600	76,000	6,500		
Salmon	5,339,000	700,000			5,339,000	700,000						
Mackerel	4,495,000	402,000	4,344,000	395,000	152,000	6,700						
Alewives and roe	18,193,000	214,000	18,193,000	214,000								
Cod	5,785,000	222,000	1,083,000	51,000	4,702,000	150,000						
Herring	4,208,000	74,000	4,157,000	73,000	51,000	1,200						
Haddock	660,000	35,000	660,000	35,000								
Shrimp and prawn	158,000	16,000	79,000	9,500			79,000	6,600				
Barracuda	230,000	10,000			230,000	10,000						
All other	851,000	41,000	606,000	27,000	169,000	7,200			76,000	6,500		
Frozen and fresh	5,644,000	318,000	600,000	12,000	3,152,000	225,000			1,892,000	81,000		
Salmon	2,361,000	183,000			2,361,000	183,000						
Lake herring	946,000	33,000							946,000	33,000		
Pike perch	628,000	28,000							628,000	28,000		
Halibut	550,000	22,000			550,000	22,000						
Sturgeon	81,000	12,000			81,000	12,000						
Herring	520,000	10,000	520,000	10,000								
Shad	190,000	8,500	30,000	800	160,000	7,700						
All other	368,000	21,000	50,000	1,000					318,000	20,000		
All other products, including fertilizer, oil, and glue	128,877,000	3,517,000	126,202,000	3,384,000	1,622,000	65,000	950,000	65,000	103,000	2,500		

CHAPTER IX.

EXPORTS AND IMPORTS.[1]

Comparison with domestic production.—The exports of domestic fishery products for the fiscal year ended June 30, 1908, were valued at $6,166,193, and the imports for consumption for the same period were valued at $13,135,724, or $6,969,531 more than the exports.

Fresh fish formed but a small part of either the exports or the imports. The exports and imports of fresh fish were essentially to and from near-by countries, and so far as they are distinguishable and reported separately amounted in value to only $87,379 and $1,772,164, respectively. When these amounts are deducted from the gross exports and imports there remain the large sums of $6,078,814 and $11,363,560, representing, respectively, the value of the exports and imports of fishery products other than fresh fish during the fiscal year 1908. Obviously, therefore, any comparison of exports and imports with domestic production must deal with the products of the fish canning and preserving industry rather than with the main products of the fisheries. The statistics of domestic production, exports, and imports may be correlated so as to show in a general way the value of the fishery products available for consumption. Such a comparison is, however, necessarily defective, not only because the values of products in the census of the fisheries are those reported by the fishermen or the manufacturers, while the values of products exported and imported, are the commercial values at the port and may be therefore considerably different, but also because there is no record of the value of the stock on hand at the beginning and at the end of the year. Furthermore, the statistics for exports and imports are those for the fiscal year ended June 30, while those for the fisheries are for the calendar year. The products of fish canning and preserving establishments, however, inclusive of those of Alaska, had a value of $35,902,847 in 1908. As a considerable amount of fish was cured or preserved by the fishermen, this should be added to the products of the fish canning and preserving establishments, for comparative purposes; and as these exports and imports of fishery products include oil, whalebone, and sponges, the amounts reported for these products by the fisheries should be also added. The sum secured by making these combinations, $38,910,295, represents the value for the domestic production which is in a general way comparable with the figures for the exports and imports of fishery products other than fresh fish. This total comprises the products of the fish canning and preserving industry in continental United States, $35,902,847; fish salted and smoked by fishermen, $1,948,635; fish oil, whale oil, and sea-elephant oil, $298,717; whalebone, $215,226; and sponges, $544,870. The excess of the value of imports over that of exports, $6,969,531, added to the above total, gives the sum of $45,879,826 for the United States consumption of fishery products other than fresh fish, of which amount 15 per cent represented imports and 85 per cent the domestic production.

Comparison of exports and imports.—In 1890 and previous years the total exports of fishery products exceeded the imports, and the balance of trade was in favor of the United States; but by 1895 the balance had shifted and the imports exceeded the exports, and since the latter year the balance of trade has uniformly been against the United States. The difference increased rapidly, until in 1907 and 1908 the debit balance of trade was in excess of the total value of the exports.

The following tabular statement gives the values of the imports and exports of fishery products for certain years since 1875, and the resulting balances. This statement includes the value of all fish, whether fresh, canned, or otherwise treated, fish and whale oil, whalebone, and sponges.

FISCAL YEAR.	VALUE OF FISHERY PRODUCTS.			
	Imports.	Exports.	Excess of imports over exports.	Excess of exports over imports.
1908	$13,135,724	$6,166,193	$6,969,531	
1907	13,224,049	6,238,570	6,985,479	
1906	12,599,201	8,100,879	4,498,322	
1905	11,530,487	7,096,340	4,434,147	
1904	11,052,236	8,366,016	2,684,220	
1900	8,230,121	6,163,113	2,067,008	
1895	6,237,287	5,408,870	828,417	
1890	5,815,284	7,336,993		$1,521,709
1885	5,247,404	5,891,164		643,760
1880	3,813,299	5,114,926		1,301,627
1875	3,330,748	4,716,655		1,385,907

In the case of whale oil the excess of imports over exports did not begin until 1900; whalebone exports, on the other hand, have always exceeded imports, but by varying amounts. It will be seen that the growth in the debit balance is due chiefly to a marked increase in the value of imports. Table 1, on page 291, gives the quantity and value of the exports of domestic fishery products, distributed by kinds, for the fiscal years 1890, 1900, and 1908; and Table 2, on page 291, gives for the same years the value of the domestic exports, by country to which exported. The quantity and value of the imports reported for the fiscal years 1890, 1900, and 1908 are distributed according to kind of product and country from which imported in Table 3, on page 292; and the value of imports for these years is shown by country from which imported in Table 4, on page 293.

The exportation and importation of fishery products are governed largely by the location of the source of supply or market, shipping conditions, the direction of trade routes, etc.

The imports of salmon, which were valued at $229,881, were all from near-by North American countries and the greater part were entered at North Atlantic and at northern border and lake ports. Manifestly, the proximity of the Canadian supply to the Eastern states made such importation cheaper than the transportation of the domestic product from the Pacific coast. Similar situations, together with shipping conditions and the location of trade routes, account for the exportation of domestic cod, haddock, hake, pollack, and herring to the West Indies and the Central American states, while quantities many times larger were imported from Europe, Canada, the West Indies, and elsewhere. In the case of sponges part of the imports consisted of various species not produced on the coast of Florida, although the largest portion came from the West Indies and comprised varieties very similar to those produced in Florida. On account of the location of trade routes New York is the center of both exportation and importation of this product. Oysters were imported, while they formed the most important fishery product exported next to salmon. Herring, the fish most extensively imported, had only a small value as an export, as explained above. Among other fishery products imported in large quantities were anchovies and sardines, pickled mackerel, of which only a small amount was exported, and lobsters, which formed no part of the exports of fishery products. Miscellaneous kinds of fresh fish and shellfish from Canada and other countries owe their interchange with like American products principally to differences in species, but also to the direction of the trade routes.

Exports.—Although the United States exported fishery products worth $6,166,193 in 1908, the production as a whole was less than the consumption, and the fish importations, valued at $13,135,724, did not overstock the market. Of the total value of the exports in 1908, 66 per cent represented the value of salmon, either canned, cured, or fresh, and 11 per cent that of oysters.

The preeminence of salmon among exports was maintained in each of the years for which statistics are given, the quantities differing only slightly. There has been, however, a marked change in the form in which the salmon has been exported; in 1890 practically the entire quantity was canned, but in 1908 only 60 per cent of the amount exported was thus prepared. Although less salmon was exported in 1908 than in 1890, the value of the smaller exportation was greater by $758,176. On the other hand, the value of the oyster exports decreased.

The fishery products exported to the United Kingdom had a greater value than those exported to any other country, although the value of the exports to Germany was nearly as great. The former country is credited with 26 per cent and the latter with 25 per cent of the total value of our exports of fishery products. The German trade was much smaller, relatively, in 1900 and 1890, while the purchases of the United Kingdom for those years constituted 40 and 50 per cent, respectively, of the total value of the exports of fishery products of the United States.

The exports to the United Kingdom in 1908 were composed principally of canned salmon and comprised about half of that commodity exported. This country also took nearly a third of the oyster exports. The exports to Germany consisted almost wholly of cured salmon, over 86 per cent of the total exports of which went to that country. Of the exported whalebone, over 98 per cent represents product purchased by France.

The total exports to North American countries have gradually, though slightly, decreased since 1890. The value of the exports to Canada, including Newfoundland, $431,800, was larger in 1908 than that of the exports to any other country of this continent, forming 41 per cent of the total value of fishery products exported to countries of North America. Though this represents a decrease in both amount and percentage of the total since 1900, it is nearly twice as great as the corresponding value in 1890. In 1890 the West Indies received a much larger share of our exported fishery products than did Canada, but since then the exports to these islands have steadily decreased, and a decrease has been manifest since 1900 even in the case of Cuba, despite the close political relations between that island and the United States during the past 10 years. But in view of the fact that there has been an increase as compard with 1890 in the value of the fishery products imported from the West Indies, it seems probable that the home demand rather than any loss of markets caused the decrease in the exportations to these islands. The exports of fishery products to the Central American states were much larger than in 1900 and 1890, this increase being in line with the increase in general trade with these states. Mexico, especially since 1900, also shows a large increase in imports of fishery products from the United States, which was the result of the increased importation of canned salmon.

[1] The figures used in this chapter have been taken from "Commerce and Navigation of the United States," Bureau of Statistics, Department of Commerce and Labor.

The export trade in fish with South America has developed rapidly, especially that with Chile and Argentina, salmon being the principal kind exported. Of the great gain made in exports of fishery products to Brazil between 1890 and 1900, about one-half has been lost since the latter year. During the years from 1900 to 1908 the export trade with Asia, Oceania, and Africa also receded from the high-water mark of 1900.

Imports.—The aggregate value of fishery products imported into the United States in 1908 was $13,135,724, of which amount the sum of $12,292,770 represents the value of food-fish imports, including shellfish. Herring, the chief article imported, supplied 20 per cent of the latter value. The proportions that other leading commodities represented of the total value of the food-fish imports (including shellfish) were as follows: Anchovies and sardines, packed in oil or otherwise treated, 18 per cent; fresh fish, 14 per cent; canned or preserved mackerel, 12 per cent; lobsters, 11 per cent; and preserved cod, haddock, hake, and pollack, 7 per cent. Thus these commodities, together with herring, account for 83 per cent of the total value of food-fish and shellfish imports.

The bulk of the herring product, 97 per cent, was pickled or salted and of the quantity thus treated, 37 per cent came from the Netherlands and a slightly greater proportion, which, however, was of smaller value, from the United Kingdom. Anchovies and sardines, packed in oil or otherwise treated, came chiefly from Norway and France. The value of fresh fish imported was more than twenty times that of the fresh fish exported. The most important source of supplies of these latter imports was Canada, which also formed the principal market for our fresh fish exports.

Of the value reported for mackerel, 42 per cent represents imports from the United Kingdom, and 34 per cent imports from Norway. Lobsters were brought chiefly from Canada, while a substantial quantity came from British South Africa. Preserved cod, haddock, hake, and pollack were imported chiefly from Canada.

The proportions which the specified kinds of imports have represented of the total food-fish imports have been nearly the same in previous years, although herring has gained somewhat more rapidly than any of the other classes of fishery products. Not one of the classes of food-fish products for which statistics are presented shows a decrease in importation in 1908, as compared with 1890.

In respect to whale and fish oil, imports from Newfoundland and Labrador led, but the increase in the value of the imports from Norway is to be noted, as is their high grade. The growth of such imports from Japan was also remarkable. The value of the total importation of sponges, of which 77 per cent represents the value of sponges obtained from the British West Indies and Cuba, was less in 1908 than in either 1890 or 1900.

Canada supplied the greatest value of imports of fishery products, contributing 37 per cent of the total in 1908, the same proportion in 1900, and 51 per cent in 1890. Imports from Europe furnished 54 per cent of the value of the imports in 1908; but the European country which led in this respect, the United Kingdom, though ranking second to Canada, supplied imports valued at less than half of the value of the Canadian product. The value of imports from the United Kingdom formed 17 per cent of the total value of our imports of fishery products in both 1908 and 1900 and 9 per cent in 1890.

Norway and Sweden, next in importance, supplied 15 per cent of the total value of the imports in 1908, and the Netherlands 9 per cent. The value of the imports from the Netherlands formed in 1908 about the same proportion of the total value as in 1900, but a slightly larger proportion than in 1890, while for Norway the increase shown was more rapid than for any of the other leading countries. Of the total value of imports from Norway and Sweden in 1908, $1,927,412 represents the value of importations from Norway and $95,874 that of importations from Sweden.

While imports from Canada, the United Kingdom, Norway and Sweden combined, and the Netherlands have increased in value absolutely and relatively since 1890, those from France have lost both in absolute and in relative value since 1900. The imports from Belgium and the West Indies have also fallen off in value since 1900. The values credited to these three countries in 1908 are, however, greater than the corresponding figures for 1890. In 1890 imports from France ranked second in value, those from Canada being first. In 1900 the former were surpassed only by those from the United Kingdom and Canada; while in 1908 France ranked fifth. This loss of position was due, especially, to a decrease in the importation of sardines.

The great increase in the value of the Norwegian imports was made up largely of increases in the value of anchovies, as well as in the values of mackerel and miscellaneous fish. Pickled or salted herring accounted chiefly for the increase in value shown for the United Kingdom, but there was also a large gain in the value of imports of miscellaneous fish from that country. The increase in the value of Canadian imports was common to all commodities except dried or smoked herring, but was most pronounced in the case of fresh fish, preserved cod, haddock, hake, and pollack, miscellaneous shellfish, and lobsters.

TABLE 1.—EXPORTS OF DOMESTIC FISHERY PRODUCTS: 1908, 1900, AND 1890.

KIND OF PRODUCT.	EXPORTS OF DOMESTIC FISHERY PRODUCTS.					
	1908		1900		1890	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total		$6,166,193		$6,163,113		$7,336,993
Fish:						
Salmon—						
Canned	28,226,045	2,438,518	27,082,370	2,693,648	28,781,661	3,259,344
Other		1,648,044		535,276		69,042
All other—						
Fresh	1,777,718	87,379	1,557,005	59,734	1,043,162	48,086
Dried, smoked, and cured—						
Cod, haddock, hake, and pollack	3,385,573	179,987	9,739,573	404,212	17,030,019	793,186
Herring	856,052	31,575	3,766,897	82,407	3,664,704	103,091
All other	174,053	8,055	963,774	56,684	1,515,790	83,968
Pickled—						
Mackerel		16,877		14,352		15,512
All other		68,148		99,627		120,524
Canned		158,879		133,244		143,599
Caviar		12,532		100,786		
Shellfish:						
Oysters		663,832		807,243		837,239
All other		281,756		416,212		372,238
Other fishery products:						
Fish oil	[1] 306,439	93,261	[1] 795,642	184,403	[1, 2] 1,844,041	[2] 440,773
Whale oil	[1] 18,507	8,146	[1] 60,214	24,766	[1, 2] 462,565	[2] 124,601
Whalebone	53,167	210,444	196,001	494,276	190,484	705,500
Sponges	247,518	168,426	71,642	32,199		25,293
All other		90,334		24,044		194,997

[1] Gallons. [2] Includes whale oil. [3] Sperm oil. Whale oil included with fish oil.

TABLE 2.—VALUE OF EXPORTS OF DOMESTIC FISHERY PRODUCTS, BY COUNTRY TO WHICH EXPORTED: 1908, 1900, AND 1890.

COUNTRY TO WHICH EXPORTED.	VALUE OF EXPORTS OF DOMESTIC FISHERY PRODUCTS.		
	1908	1900	1890
All countries	$6,166,193	$6,163,113	$7,336,993
Europe	3,604,806	3,533,975	4,820,770
Germany	1,520,674	574,144	650,260
United Kingdom	1,597,769	2,489,488	3,849,099
All other countries	486,363	470,343	321,408
North America	1,084,384	1,094,720	1,217,886
Canada, Newfoundland, and Labrador	454,291	516,062	228,067
Central America	177,699	44,880	62,935
Mexico	163,853	66,577	39,379
West Indies	271,325	467,039	887,130
Cuba	73,054	90,163	56,005
Other islands	198,271	376,876	831,125
All other countries	17,216	162	375
South America	658,904	455,978	275,868
Argentina	100,907	45,295	20,826
Brazil	77,790	155,039	11,225
Chile	316,760	89,888	33,336
All other countries	163,447	165,756	200,481
Asia	141,175	284,374	254,971
Oceania	615,318	683,498	691,779
Africa	61,606	110,568	41,742
Countries, islands, and ports not reported separately			33,950

TABLE 3.—IMPORTS OF FISHERY PRODUCTS, BY KIND AND COUNTRY FROM WHICH IMPORTED: 1908, 1900, AND 1890.

KIND OF PRODUCT AND COUNTRY FROM WHICH IMPORTED.	IMPORTS OF FISHERY PRODUCTS.					
	1908		1900		1890	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Total		$13,135,724		$8,230,121		$5,815,284
Fish:						
Fresh		1,772,164		1,245,542		880,203
Salmon	1,140,381	120,032	1,199,079	115,069	853,963	88,648
Canada	1,140,381	120,032	1,195,922	114,880	853,963	88,648
Newfoundland and Labrador			3,157	189		
All other (except shellfish)		1,652,132		1,130,473	41,727,190	791,555
Canada		1,639,946		1,126,498	40,372,180	765,787
All other countries		12,186		3,975	1,355,010	25,768
Cured or preserved		8,671,876		5,181,275		3,710,382
Anchovies and sardines, packed in oil or otherwise treated		2,219,549		1,483,768		728,108
Norway		772,411		[1] 56,247		[1] 14,415
France		761,669		1,189,125		625,109
Portugal		318,290		110,434		20,060
Italy		121,259		29,059		7,007
Spain		66,874		2,363		
United Kingdom		62,994		20,469		35,454
Belgium		31,153		51,965		11,953
Germany		24,078		6,909		5,664
All other countries		60,821		17,197		8,446
Cod, haddock, hake, and pollack, dried, smoked, salted, or pickled	15,831,540	870,757	14,395,483	543,172	12,750,312	409,388
Canada	12,939,677	679,237	9,885,426	351,564	8,642,981	290,362
Newfoundland and Labrador	1,819,377	93,499	1,916,107	82,676	2,249,082	76,710
Norway	901,335	86,265	[1] 671,946	[1] 43,048	[1] 108,759	[1] 5,552
West Indies	105,000	9,022	43,525	2,734		
All other countries	45,951	2,714	1,878,419	63,160	1,749,490	36,764
Herring	73,163,909	2,479,273	36,374,217	1,482,568	31,590,573	1,021,962
Dried or smoked	2,035,135	67,788	5,130,813	127,555	6,502,573	140,144
Canada	1,090,734	31,055	4,605,133	107,800	5,608,964	107,611
Netherlands	799,828	31,211	69,123	3,661	96,670	2,854
United Kingdom	75,524	2,769	299,322	12,043	10,130	448
Norway	51,886	1,990	[1] 38,719	[1] 1,037	[1] 701,288	[1] 27,373
All other countries	17,163	763	118,516	3,014	85,521	1,858
Pickled or salted	71,128,774	2,411,485	31,243,404	1,355,013	25,088,000	881,818
Netherlands	26,359,077	1,030,863	12,191,397	674,665	7,893,200	470,133
United Kingdom	27,326,566	1,006,368	8,960,272	375,586	2,035,000	73,113
Norway	9,359,233	209,826	[1] 5,332,369	[2] 199,327	[1] 5,541,800	[1] 117,100
Sweden	512,440	12,632				
Canada	5,170,344	105,524	3,351,547	57,416	4,606,800	88,218
Newfoundland and Labrador	1,904,470	29,309	943,545	23,169	2,806,600	58,056
Germany	413,990	14,254	356,888	21,491	2,158,200	73,107
All other countries	82,674	2,609	87,386	3,359	46,400	2,091
Mackerel, pickled or salted	20,956,891	1,439,359	18,546,554	1,276,900	14,087,400	1,010,670
United Kingdom	9,997,749	698,679	13,530,662	855,440	4,792,400	316,953
Norway	5,493,247	488,195	[2] 2,273,537	[1] 233,943	[1] 609,000	[1] 48,465
Sweden	577,258	31,322				
Canada	3,277,799	209,782	2,054,621	140,927	8,567,600	641,369
Netherlands	1,650,180	78,192	676,971	45,805		
Newfoundland and Labrador	33,400	1,756	1,400	60	3,000	232
All other countries	17,258	1,433	9,363	725	125,400	3,651
Salmon, pickled or salted	1,079,188	109,849	736,658	54,236	789,200	67,149
Canada	1,017,884	106,629	404,397	29,606	395,400	34,313
Newfoundland and Labrador	56,700	3,003	331,661	24,587	393,800	32,836
All other countries	4,584	217	600	41		
All other (except shellfish)		1,553,089		340,631		473,105
United Kingdom		394,781		51,467		7,823
Canada		294,695		63,463		357,448
Norway		214,487		[1] 85,926		[1] 17,474
Japan		162,310		3,077		1,076
Germany		138,857		25,962		13,136
Italy		128,625		10,733		3,716
All other countries		219,334		100,001		72,410
Lobster, canned or uncanned	8,212,945	1,401,449	7,497,227	931,219		568,150
Canada	8,063,732	1,375,315	7,328,853	915,360		491,282
British South Africa	136,173	22,879	143,815	10,993		
Newfoundland and Labrador	5,310	1,504	17,419	3,431		76,046
All other countries	7,710	1,751	7,140	1,435		822
Shrimp and other shellfish (except lobsters) and turtles		333,606		62,415		131,100
Canada		135,958		16,345		109,239
Japan		90,515		3,804		11
West Indies		29,430		3,573		50
Hongkong		22,182		5,278		1,540
Mexico		22,166		11,503		1,420
Chinese Empire		17,449		15,794		10,015
All other countries		15,906		6,056		8,825
Sounds, fish		113,675		[3]		[3]
Canada		62,365				
United Kingdom		22,721				
Venezuela		13,907				
European Russia		6,706				
British India		4,113				
All other countries		3,863				

[1] Norway and Sweden.

[2] Not reported separately.

TABLE 3.—IMPORTS OF FISHERY PRODUCTS, BY KIND AND COUNTRY FROM WHICH IMPORTED: 1908, 1900, AND 1890—Continued.

KIND OF PRODUCT AND COUNTRY FROM WHICH IMPORTED.	IMPORTS OF FISHERY PRODUCTS.					
	1908		1900		1890	
	Quantity (pounds).	Value.	Quantity (pounds).	Value.	Quantity (pounds).	Value.
Whale and fish oil	[1] 1,221,065	$408,113	[1] 851,372	$273,567	[1] 267,379	$85,436
Newfoundland and Labrador	573,019	154,663	204,213	48,339	11,578	2,730
Norway	254,790	153,873	[2] 265,710	[2] 133,938	[2] 147,824	[2] 56,977
Japan	221,960	47,722	40	10	6,300	1,828
Canada	140,555	35,243	349,556	76,170	67,847	12,857
United Kingdom	20,823	11,411	2,434	1,121	4,293	1,602
Germany	9,008	4,683	27,529	13,193	26,397	8,541
All other countries	877	518	1,890	596	3,140	901
Whalebone	9,054	43,633			19,040	23,295
Asiatic Russia	8,899	43,560				
United Kingdom	155	73			[3]	[3]
Sponge		391,208		536,303		416,718
British West Indies		174,961		283,016		214,883
Cuba		125,779		133,653		26,741
United Kingdom		50,827		79,466		115,205
Greece		26,190		18,135		48,131
All other countries		13,451		12,653		11,758

[1] Gallons.

[2] Norway and Sweden.

[3] Not reported.

TABLE 4.—VALUE OF IMPORTS OF FISHERY PRODUCTS, BY COUNTRY FROM WHICH IMPORTED: 1908, 1900, AND 1890.

COUNTRY FROM WHICH IMPORTED.	VALUE OF IMPORTS OF FISHERY PRODUCTS.		
	1908	1900	1890
All countries	$13,135,724	$8,230,121	$5,815,284
Europe	7,126,849	4,420,482	2,157,527
United Kingdom	2,170,057	1,400,280	551,423
Norway and Sweden	2,023,286	753,838	287,359
Netherlands	1,162,712	756,678	479,388
France	788,711	1,196,862	634,567
Portugal	346,646	110,434	20,060
Italy	253,261	30,939	12,696
Germany	191,207	70,914	103,075
Spain	85,737	2,690	57
Belgium	31,587	56,144	13,854
All other countries	73,645	30,703	55,024
North America	5,485,447	3,720,942	3,567,827
Canada	4,797,133	3,000,678	2,988,288
West Indies	342,857	436,466	226,059
Newfoundland and Labrador	293,932	189,737	281,739
Mexico	47,805	23,920	3,988
All other countries	3,720	70,121	37,853
Asia	483,769	74,907	66,110
Japan	310,011	7,282	2,915
Hongkong	63,912	21,181	9,618
Chinese Empire	56,326	46,105	53,498
All other countries	53,520	339	79
Africa	24,399	12,460	
South America	14,783	1,102	3
Oceania	277	228	257
Countries, islands, and ports not separately reported			23,460

APPENDICES.

APPENDIX A.—THE FISHERIES OF ALASKA IN 1908.

APPENDIX B.—SCHEDULES:

SHORE AND BOAT FISHERIES.
VESSEL FISHERIES.
PACKING HOUSES AND CANNERIES.

APPENDIX C.—INSTRUCTIONS TO SPECIAL AGENTS.

APPENDIX A.

THE FISHERIES OF ALASKA IN 1908.

By MILLARD C. MARSH, Agent at the Salmon Fisheries of Alaska, and JOHN N. COBB, Assistant Agent.

SUMMARIZED STATISTICS.

As in the reports for previous years, the District of Alaska is considered in the four geographic sections generally recognized, as follows: Southeast Alaska, embracing all that narrow strip of mainland, and the numerous islands adjacent, from Portland Canal northwestward to and including Yakutat Bay; central Alaska, the region on the Pacific, or south side, from Yakutat Bay westward, including the Aleutian chain; western Alaska, the shores of Bering Sea, and islands in this sea; and arctic Alaska, from Bering Strait to the Canadian border.

With the exception of arctic Alaska and a portion of western Alaska, practically all of the fishing localities were visited by one or the other of the agents. Statistics of the yield of fur seals from the Pribilof Islands were obtained through the courtesy of the agent at the fur seal islands, while figures for the other aquatic furs (except the coast fur seals and sea otter) and skins, also the whalebone and walrus ivory, were obtained from the customhouse records at Juneau. Considerable commercial fishing is carried on in the Yukon River and its tributaries, where fish wheels, nets, and spears are employed, but unfortunately it has been found impossible so far, owing to the short time available each season and the few agents employed, to extend the inspection work over this large region, or to secure data showing the extent of the fisheries there.

As in previous years, by far the greater part of the fishery products of Alaska are marketed outside the district, but a steadily increasing local demand is noticeable, especially in the case of the hitherto somewhat neglected minor species.

PERSONS ENGAGED.

The number of persons engaged in the fisheries of Alaska in 1908 was 13,337, of whom 4,976 were engaged directly in fishing, 7,740 in the canneries, salteries, and at other shore work, and 621 employed on the transporting vessels. This total is a gain of 585 over the number employed in 1907. The fact that the fishermen act as sailors on the transporting ships to and from the salmon canneries and salteries explains the small number of transporters shown in the table. Owing to the impossibility of the agents visiting arctic Alaska in the limited open season, thus making it difficult to secure accurate data, no attenpt has been made to show the number of men employed and the investment in the fisheries of this region, although certain of the products are shown in the proper table.

Persons engaged in the Alaska fisheries in 1908.

OCCUPATION AND RACE.	Southeast Alaska.	Central Alaska.	Western Alaska.	Total.
Fishermen:				
Whites	1,193	663	1,554	3,410
Indians	1,298	103	138	1,539
Japanese	27	.....	.....	27
Total	2,518	766	1,692	4,976
Shoresmen:				
Whites	519	307	1,003	1,829
Indians	886	165	430	1,481
Chinese	765	363	890	2,018
Japanese	435	374	1,603	2,412
Total	2,605	1,239	3,896	7,740
Transporters:				
Whites	263	144	165	572
Indians	40	2	7	49
Total	303	146	172	621
Grand total	5,426	2,151	5,760	13,337

INVESTMENT.

The total investment in the fisheries was $10,319,784, an increase of $1,103,756 over 1907. The item of cash capital was eliminated in the 1906 report, and this procedure has been followed ever since.

INVESTMENT IN THE ALASKA FISHERIES IN 1908.

ITEM.	SOUTHEAST ALASKA.		CENTRAL ALASKA.		WESTERN ALASKA.		TOTAL.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Fishing vessels:								
Steamers and launches	30	$171,815	.....	.....	.....	.....	30	$171,815
Tonnage	475	.....	.....	.....	.....	.....	475	.....
Sailing	15	13,800	2	$3,800	.....	.....	17	17,600
Tonnage	176	.....	61	.....	.....	.....	237	.....
Transporting vessels:								
Steamers and launches	87	412,300	27	239,100	46	$710,450	160	1,361,850
Tonnage	1,808	.....	1,302	.....	3,312	.....	6,422	.....
Sailing	8	159,900	13	326,300	28	629,400	49	1,115,600
Tonnage	7,385	.....	13,310	.....	36,360	.....	57,055	.....
Boats	1,205	165,134	710	88,560	941	303,317	2,856	557,011
Apparatus, vessel fisheries:								
Purse seines	4	2,800	.....	.....	.....	.....	[1] 4	2,800
Haul seines	1	310	.....	.....	.....	.....	[2] 1	310
Lines	.....	7,905	.....	.....	.....	.....	.....	7,905
Guns	.....	.....	30	360	.....	.....	30	360
Gun and harpoons	.....	275	.....	.....	.....	.....	.....	275

[1] Aggregate length of 2,400 yards.

[2] Aggregate length of 300 yards.

INVESTMENT IN THE ALASKA FISHERIES IN 1908—Continued.

ITEM.	SOUTHEAST ALASKA.		CENTRAL ALASKA.		WESTERN ALASKA.		TOTAL.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Apparatus, shore fisheries:								
Haul seines	82	$21,301	44	$18,115			[1] 126	$39,416
Purse seines	126	39,464	28	7,150			[2] 154	46,614
Gill nets	187	23,690	42	3,300	914	$75,835	[3] 143	102,825
Dip nets	18	14	14	7			32	21
Traps, stake	50	133,900	21	30,850	14	16,325	85	181,075
Traps, floating	15	20,100	1	1,500			16	21,600
Wheels	1	1,000					1	1,000
Crab pots	6	9					6	9
Spears	10	7					10	7
Lines		5,848		2,870				8,718
Hoes	12	9	5	3			17	12
Shore and accessory property		2,560,547		1,280,341		2,842,073		6,682,961
Total		3,740,128		2,002,256		4,577,400		10,319,784

[1] Aggregate length of 60,432 yards. [2] Aggregate length of 66,150 yards. [3] Aggregate length of 265,056 yards.

PRODUCTS.

The total quantity of products was 217,813,415 pounds, valued at $11,847,443, a gain of 39,455,114 pounds and $1,687,260 over 1907. Except for fertilizer, oil, furs, and hides, the weights are round weights, or the weight of products when first taken from the water; the prepared products weights are shown in the subsidiary tables of the report. Flounders, pollock, rock cod, whitefish, whale meat, and seaweed appear in the table for the first time this year. Whalebone and walrus ivory are the only products reported from arctic Alaska. As has been stated, it was found an impossibility to secure even approximate data as to the persons engaged or the investment in the hunting of aquatic animals (except sea otter and fur seals), which is general among the natives.

PRODUCTS OF ALASKA FISHERIES IN 1908.

PRODUCT.	SOUTHEAST ALASKA.		CENTRAL ALASKA.		WESTERN ALASKA.		ARCTIC ALASKA.		TOTAL.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Black cod:										
Fresh	21,082	$840							21,082	$840
Salted	20,250	489							20,250	489
Cod:										
Fresh	12,000	600							12,000	600
Salted	10,667	225	5,358,399	$131,953					5,369,066	132,178
Smoked			200	7					200	7
Tongues, salted	300	28	21,800	1,962					22,100	1,990
Eulachon:										
Fresh	2,820	113							2,820	113
Salted	27,000	700							27,000	700
Smoked	200	10							200	10
Flounders, or sole	7,500	225							7,500	225
Halibut:										
Fresh	4,559,427	144,419	30,000	1,200					4,589,427	145,619
Frozen	958,360	25,194							958,360	25,194
Fletched	144,219	4,929							144,219	4,929
Herring:										
Fresh	753,750	5,020	10,000	300					763,750	5,320
Salted	1,311,200	17,650	22,400	680					1,333,600	18,330
Pollack			2,700	108					2,700	108
Redfish, or black bass:										
Fresh	11,400	570	6,500	325					17,900	895
Frozen	7,650	230							7,650	230
Rock cod:										
Fresh	17,500	875	12,000	480					29,500	1,355
Frozen	600	36							600	36
Salmon:										
Fresh—										
Coho, or silver	18,000	180	5,000	150					23,000	330
Humpback, or pink	8,000	60							8,000	60
King, or spring	796,289	46,858							796,289	46,858
Red, or sockeye	42,500	340	16,000	480					58,500	820
Frozen—										
Coho, or silver	33,887	813							33,887	813
Dog, or chum	110,737	1,063							110,737	1,063
King, or spring	5,245	126							5,245	126
Red, or sockeye	19,345	564							19,345	564
Canned—										
Coho, or silver	3,420,003	194,213	808,010	46,172	589,830	$33,704			4,817,923	274,089
Dog, or chum	12,614,290	452,678			2,681,630	101,519			15,295,910	554,197
Humpback, or pink	41,464,660	1,589,412	2,146,270	85,673	1,458,380	58,294			45,069,310	1,733,379
King, or spring	174,265	10,356	449,120	27,040	1,037,699	62,471			1,661,085	99,867
Red, or sockeye	13,122,025	874,475	26,397,490	1,720,857	76,104,770	4,928,919			115,624,285	7,524,251
Mild-cured—										
King, or spring	1,290,300	62,451	299,400	15,360					1,589,700	77,811
Pickled—										
Coho, or silver	159,840	4,898	27,000	750					186,840	5,648
Dog, or chum	32,940	707							32,940	707
Humpback, or pink	608,310	17,191			25,110	744			633,420	17,935
King, or spring			1,620	480	162,000	6,333			163,620	6,813
Red, or sockeye	38,880	1,389	653,400	19,480	7,547,310	241,405			8,239,590	262,274
Dry-salted—										
Dog, or chum	27,733	416							27,733	416
Red, or sockeye			28,500	285					28,500	285
Smoked—										
Coho, or silver			12,000	1,000					12,000	1,000
Dog, or chum	100	12							100	12
Red, or sockeye			36,000	3,000					36,000	3,000

PRODUCTS OF ALASKA FISHERIES IN 1908—Continued.

PRODUCT.	SOUTHEAST ALASKA.		CENTRAL ALASKA.		WESTERN ALASKA.		ARCTIC ALASKA.		TOTAL.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
Salmon bellies, salted:										
Coho, or silver	36,100	$380	181,450	$3,155					217,550	$3,535
Dog, or chum	111,150	699							111,150	699
Humpback, or pink	2,260,325	27,660	38,000	480					2,298,325	28,140
King, or spring					45,600	$720			45,600	720
Red, or sockeye	33,250	386	1,691,000	24,770	60,000	1,080			1,784,250	26,236
Salmon eggs	15	3							15	3
Smelt	1,504	66							1,504	66
Trout:										
Dolly Varden—										
Fresh	39,200	1,340	13,000	650					52,200	1,990
Frozen	8,000	180							8,000	180
Rainbow	8,000	480							8,000	480
Steelhead—										
Fresh	2,900	116							2,900	116
Frozen	30,681	982							30,681	982
Whitefish	50	3							50	3
Fertilizer:										
Herring	1,496,000	24,000							1,496,000	24,000
Salmon	374,000	6,000							374,000	6,000
Whale	1,066,400	16,126							1,066,400	16,126
Oil:										
Herring	[1] 819,000	21,600							[1] 819,000	21,600
Salmon	[2] 204,750	5,400							[2] 204,750	5,400
Whale	[3] 1,232,850	49,036							[3] 1,232,850	49,036
Clams	6,000	300	2,000	50					[4] 8,000	350
Crabs	9,000	475	17,400	2,300					[5] 26,400	2,775
Aquatic furs and skins:										
Beaver	743	3,730	292	1,332	285	1,399			[6] 1,280	6,461
Muskrat	67	119	253	300	3,644	5,838			[7] 3,964	6,257
Otter—										
Land	1,495	5,411	1,637	5,982	200	667			[8] 3,332	12,060
Sea			145	6,300	15	750			[9] 160	7,050
Seal—										
Fur	1,992	8,350	804	2,680	89,784	448,920			[10] 92,580	459,950
Hair	4,620	945			14,796	2,405			[11] 19,416	3,350
Walrus ivory	3	3					13,742	$9,390	13,745	9,393
Whale meat (tails), salted	1,000	35							1,000	35
Whalebone	10,209	2,259					53,431	200,502	63,640	202,761
Seaweed	810	203							810	203
Total	89,635,468	3,636,642	38,289,750	2,105,741	89,821,024	5,895,168	67,173	209,892	217,813,415	11,847,443

[1] Represents 109,200 gallons.
[2] Represents 27,300 gallons.
[3] Represents 164,380 gallons.
[4] Represents 850 bushels.
[5] Represents 8,800 crabs.
[6] Represents 1,280 skins.
[7] Represents 31,712 skins.
[8] Represents 1,333 skins.
[9] Represents 32 skins.
[10] Represents 15,430 skins.
[11] Represents 6,472 skins.

APPENDIX B.

SCHEDULES.

SHORE AND BOAT FISHERIES.

[Allshore and boat fisheries must be reported on this schedule. If packing houses or canneries are operated under the same ownership, a report should also be made on Schedule EE3–249. Vessel fisheries should not beincluded in this report but should be reported on Schedule EE2–248.]

Name of company or individual operating the fishery.....

Post office (give city, street, and number).....

Location.....County.....State.....

.....

(Give name or description of water upon which fishing operations are conducted.)

WASHINGTON, D. C., *January 4, 1909.*

The act of Congress of June 7, 1906, authorizes the Director of the Census, in cooperation with the Bureau of Fisheries, to take a census of the fishing industry.

The information returned on this schedule should cover the business year most nearly conforming to the year ending December 31, 1908. All questions that require a fixed time, such as cash on hand and values of property, should be of the date of the beginning of the year covered by the report.

All answers will be held absolutely confidential. No publication will be made in the Census reports disclosing the operations of individuals or companies in any particular, *and the information will be used only for the statistical purposes for which it was given.*

The canvass will be made under the supervision of Mr. W. M. Steuart, chief statistician for manufactures.

S. N. D. NORTH,
Director of the Census.

Extract from act of Congress, March 3, 1899:

SECTION 22.— * * * "And every president, treasurer, secretary, director, agent, or other officer of every corporation, and every establishment of productive industry, whether conducted as a corporate body, limited liability company, or by private individuals, from which answers to any of the schedules, inquiries, or statistical interrogatories provided for by this act are herein required, who shall, if thereto requested by the Director, supervisor, enumerator, or special agent, willfully neglect or refuse to give true and complete answers to any inquiries authorized by this act, or shall willfully give false information, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding ten thousand dollars, to which may be added imprisonment for a period not exceeding one year."

CERTIFICATE.

This is to certify that the information contained in this schedule is complete and correct to the best of my knowledge and belief, and covers the period from....., 190..., to....., 190....

....
(Signature of special agent.) (Signature of the person furnishing the information.)

Each question should be answered; if any inquiry is not applicable and no answer can be made, write the word "None."

1. CAPITAL INVESTED—OWNED AND BORROWED: The answer must show the total amount of capital, both owned and borrowed. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and the value given. The value of all items of live capital, bills receivable, unsettled ledger accounts, materials, products, and cash on hand, etc., should be given as of the beginning of the business year reported.

ITEM.	Number.	Value.	ITEM.	Number.	Value.
Motor boats		$	Cunner nets, cunner traps, snap nets		
Sailboats			Dip nets		
Rowboats			Dredges, tongs, rakes, forks, nippers, scrapes, grabs, shovels		
Scows			Eel pots and traps		
Abalone outfits			Firearms, guns, rifles, bomb guns		
Bag nets			Fyke nets, hoop nets		
Beam trawls, otter trawls			Gill nets, drift nets, set nets, stake nets		$
Bow nets			Harpoons, spears, eel gigs		
Cast nets			Haul and other seines		
Crawfish pots			Lines—hand, trawl, and set		
			Lobster pots and traps		
			Otter and muskrat traps		
			Paranzella nets		
			Pound nets, trap nets, weirs		
			Reef nets		
			Shrimp nets		
			Spongeapparatus, hooks, water glasses, and diving equipment		
			Stop nets		
			Trammel nets		
			Turtle nets		
			Wheels and slides		$
			Land, buildings, machinery, tools, implements, and all fixed capital for which separate values are not given		
			Cash, bills receivable, unsettled ledger accounts, materials on hand, and sundries not reported above		
			Total (If more than one blank is filled out for the same individual or company, the last two items may be reported on one blank.)		

2. PROPRIETORS, FIRM MEMBERS, AND INDEPENDENT FISHERMEN: Number .....
If any of the proprietors or firm members reported above were not personally engaged in fishing, give the number not so engaged: Number.....

3. SALARIED EMPLOYEES: Number..... Amount paid in salaries, $.....
(Salaried officers, managers, clerks, etc.)

4. WAGE-EARNERS (not including employees reported above).	Number.	Total amount paid in wages during year.
Fishermen		$
Shoremen (not including employees of packing houses)		
Estimated cost of provisions supplied to employees (not to be included in wages)		

5. QUANTITY AND VALUE OF YEAR'S CATCH: Report all fishery products, including aquatic mammals, reptiles, shellfish, sponges, etc., taken during the year. Give the name and total quantity and value of each species caught by each kind of apparatus. If the "pounds" is not known and can not be estimated, give the "bushels" or "number" and state what unit of measure is used.

PRODUCTS.	KIND OF APPARATUS USED. (SPECIFY.)							
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
		$		$		$		$
Total quantity and value of year's catch								

REMARKS:.....

.....

VESSEL FISHERIES.

[All vessel fisheries must be reported on this schedule. If packing houses or canneries are operated under the same ownership, a report should also be made on Schedule EE3–249. Shore and boat fisheries should not be included in this report, but should be reported on Schedule EE1–247.]

Name of company or individual for whom this report is made.....

Post office (give city, street, and number).....

County ..... State.....

Name of vessel ..... Net tonnage.....

Hailing port..... Fishing port.....

WASHINGTON, D. C., *January 4, 1909.*

The act of Congress of June 7, 1906, authorizes the Director of the Census, in cooperation with the Bureau of Fisheries, to take a census of the fishing industry

The information returned on this schedule should cover the business year most nearly conforming to the year ending December 31, 1908. All questions that require a fixed time, such as cash on hand and values of property, should be of the date of the beginning of the year covered by the report.

All answers will be held absolutely confidential. No publication will be made in the Census reports disclosing the operations of individuals or companies in any particular, *and the information will be used only for the statistical purposes for which it was given.*

The canvass will be made under the supervision of Mr. W. M. Steuart, chief statistician for manufactures.

S. N. D. NORTH,
Director of the Census.

Extract from act of Congress, March 3, 1899:

SECTION 22.— * * * "And every president, treasurer, secretary, director, agent, or other officer of every corporation, and every establishment of productive industry, whether conducted as a corporate body, limited liability company, or by private individuals, from which answers to any of the schedules, inquiries, or statistical interrogatories provided for by this act are herein required, who shall, if thereto requested by the Director, supervisor, enumerator, or special agent, willfully neglect or refuse to give true and complete answers to any inquiries authorized by this act, or shall willfully give false information, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding ten thousand dollars, to which may be added imprisonment for a period not exceeding one year."

CERTIFICATE.

This is to certify that the information contained in this schedule is complete and correct to the best of my knowledge and belief, and covers the period from....., 190.., to....., 190...

....
(Signature of special agent.) (Signature of the person furnishing the information.)

Each question should be answered; if any inquiry is not applicable and no answer can be made, write the word "None."

1. CAPITAL INVESTED—OWNED AND BORROWED: The answer must show the total amount of capital, both owned and borrowed. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, or vessels are chartered, that fact should be stated and the value given. The value of all items of live capital, bills receivable, unsettled ledger accounts, materials, products, and cash on hand, etc., should be given as of the beginning of the business year reported.

ITEM.	Number.	Value.	ITEM.	Number.	Value.
Fishing vessels: Steam or motor[1]		$	Purse seines		$
Fishing vessels: Sail			Sponge apparatus, hooks, water glasses, and diving equipment		
Transporting vessels: Steam or motor[1]			Trammel nets		
Transporting vessels: Sail			Trap nets		
Boats carried on vessels					
Outfit (provisions, fuel, salt, ice, bait)	XXXX				
Beam trawls, otter trawls					
Dredges, tongs, hoes, rakes, forks, nippers, scrapes, grabs, shovels					
Eel pots and traps			Land, buildings, machinery, tools, implements, and all fixed capital, for which separate values are not given		
Firearms, guns, rifles, bomb guns			Cash, bills receivable, unsettled ledger accounts, materials on hand, and sundries not reported above		
Fyke nets, hoop nets			Total (If more than one blank is filled out for the same individual or company, the last two items may be reported on one blank.)		
Gill nets, drift nets, set nets, stake nets					
Harpoons, spears					
Haul and other seines					
Lines—hand, trawl, and set					
Lobster pots and traps					
Paranzella nets					

[1] Mark "AUX." if equipped with both sail and mechanical motive power.

2. PROPRIETORS, FIRM MEMBERS, AND INDEPENDENT FISHERMEN: Number.....
If any of the proprietors or firm members reported above were not personally engaged in fishing, give the number not so engaged: Number.....

3. SALARIED EMPLOYEES: Number..... Amount paid in salaries, $.....
(Salaried officers, managers, clerks, etc.)

4. WAGE-EARNERS (not including employees reported above).	Number.	Total amount paid in wages during year.
Vessel crew		$
Shoremen (not including employees of packing houses)		
Estimated cost of provisions supplied to employees (not to be included in wages)		

5. QUANTITY AND VALUE OF YEAR'S CATCH: Report all fishery products, including aquatic mammals, reptiles, shellfish, sponges, etc., taken during the year. Give the name and total quantity and value of each species caught by each kind of apparatus. If the "pounds" is not known and can not be estimated, give the "bushels" or "number" and state what unit of measure is used.

PRODUCTS.	KIND OF APPARATUS USED. (SPECIFY.)							
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
		$		$		$		$
Total quantity and value of year's catch								

Remarks: .....

.....

.....

PACKING HOUSES AND CANNERIES.

[Establishments engaged in the canning and preserving of fish and in the manufacture of fertilizer, oils, etc., from same must be reported on this schedule. If fishing operations are conducted under the same ownership, a report must also be made on the schedules provided for this purpose. Vessel fisheries must be reported on Schedule EE2–248 and shore or boat fisheries on Schedule EE1–247.]

Name of company or individual operating the establishment.....

Location: State ..... County.....
City or village ..... Street and No.....
Post office.....

General office at.....

(Establishments operated under the same ownership and located in different states must be reported separately.)

WASHINGTON, D. C., *January 4, 1909.*

The act of Congress of June 7, 1906, authorizes the Director of the Census, in cooperation with the Bureau of Fisheries, to take a census of the fishing industry.

The information returned on this schedule should cover the business year most nearly conforming to the year ending December 31, 1908. All questions that require a fixed time, such as cash on hand and values of property, should be of the date of the beginning of the year covered by the report.

All answers will be held absolutely confidential. No publication will be made in the census reports disclosing the operations of individuals or companies in any particular, *and the information will be used only for the statistical purposes for which it was given.*

The canvass will be made under the supervision of Mr. W. M. Steuart, chief statistician for manufactures.

S. N. D. NORTH,
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Extract from act of Congress, March 3, 1899:

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CERTIFICATE.

This is to certify that the information contained in this schedule is complete and correct to the best of my knowledge and belief, and covers the period from ....., 190 , to....., 190 , during which period the plant was in active operation.....days.

....
(Signature of special agent.) (Signature of the person furnishing the information.)

Each question should be answered; if any inquiry is not applicable and no answer can be made, write the word "None."

1. CAPITAL INVESTED, OWNED, AND BORROWED: The answer must show the total amount of capital, both owned and borrowed. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and the value given. The value of all items of live capital, bills receivable, unsettled ledger accounts, materials, products, and cash on hand, etc., should be given as of the beginning of the business year reported.

Land	$.....
Buildings, wharves, machinery, tools, and implements	.....
Cash on hand, bills receivable, unsettled ledger accounts, raw materials, stock in process, and finished products on hand, and other sundries	.....
Total	.....

2. PROPRIETORS AND FIRM MEMBERS: Number.....

3. SALARIED EMPLOYEES: Number..... Amount paid in salaries, $.....
(Salaried officers, managers, clerks, etc.)

4. WAGE-EARNERS, INCLUDING PIECE-WORKERS: Do not include salaried employees reported above.	Average number employed during the year.	Greatest number employed at any one time during the year.	Least number employed at any one time during the year.	Total amount paid in wages during the year.
Men 16 years and over				$.....
Women 16 years and over				.....
Children under 16 years				.....
Total				.....

To obtain the average number employed during the year, take the average number employed each month, add, and divide by 12. Salaries and wages should include board or rent furnished as part compensation. Foremen receiving wages and performing work similar to that of the men over whom they have charge are to be reported as wage-earners. If books do not show the separate amount of wages paid to men, women, and children, apportion the total wages for the year upon the basis of an average pay roll.

5. FRESH FISH RECEIVED AT PLANT.	Quantity (pounds).
Caught by employees of company	.....
Purchased from other fishermen	.....
Total	.....

6. PRODUCTS OF PACKING HOUSE OR CANNERY.

PRODUCTS.	Process of treatment (whether canned, packed, smoked, salted, etc.).	Quantity (pounds).[1]	Value at plant.
.....	.....	.....	$.....
.....	.....	.....	.....
Fish sold fresh		.....	.....
Fertilizer		.....	.....
Oil		.....	.....
By-products (give name and separate quantity and value of finished by-products)		.....	.....
.....		.....	.....
All other products (specify principal items)		.....	.....
Total value of all products for the year			.....

[1] If the quantity is not given in pounds, state specifically the unit of measure used. If number of cans is reported, give size of cans, for example, "half-pound," "one-pound," or "two-pound," and if more than one size is used, state number of cans of each size. If number of cases is reported, give number and size of cans in case.

Remarks: .....
.....
.....

APPENDIX C.

INSTRUCTIONS TO SPECIAL AGENTS.

GENERAL.

In conformity with the act of Congress of June 7, 1906, the census of the fishing industry is to be made by the Director of the Census in cooperation with the Commissioner of Fisheries. The object of this cooperation is to avoid a duplicate canvass and insure uniformity and agreement in the reports of the two bureaus. To secure such a result and to minimize the work of correspondence, correction, and revision, the utmost pains must be taken to obtain correct information for all branches of the investigation.

The census is to be made under the immediate supervision of the chief statistician for manufactures, and all employees engaged in field work must follow the instructions of that official.

Industries and period covered.—The census must cover, in addition to all varieties of seafood and fish products, shellfish, whales, seals, turtles, crabs, shrimp, alligators, and sponges. It will include also the pearl mussel fisheries of the rivers of the country. All commercial fisheries, vessels engaged in fishing, and vessels engaged in transporting fish from the fishing grounds, which operate from the ports of the continental United States, Alaska, or Porto Rico, must be reported. Vessels engaged in fishing or transporting fish for a portion of the year and in other work for the remainder of the 12 months must be reported, and in such cases the report must cover the operations of the entire year. Vessels engaged in transporting fish from port to port as regular freight must not be reported. The census also covers the operations of establishments engaged in canning or preserving fish or in the manufacture of fertilizer, oil, etc., from sea products.

Dealers in fish products, either wholesale or retail, who are not also engaged in catching or in canning or preserving fish, should not be reported. It is difficult in many instances to separate the statistics for the mercantile portion of the industry, but the following rules should be applied whenever practicable:

1. When dealers in fish or fish products are also engaged in canning or preserving fish or in catching fish, no attempt should be made to separate these statistics—the entire establishment should be included in the census report, except as provided in Rule 2.

2. If an establishment is engaged primarily in the purchase and sale of fish or fish products and incidentally in catching fish or in canning and preserving the same, the statistics for the mercantile portion should be segregated and the census report relate exclusively to the fishing or canning and preserving branch of the establishment.

3. In cases where the purchase and sale of fish or fish products is combined with the canning or preserving of fish or with catching fish, and a combined report is made, as indicated in Rule 1, the report must show separately the quantity received and the quantity and value of products disposed of in connection with the wholesale or retail branch of the establishment.

4. The freezing of fish or the shucking of oysters when done by merchants is considered as a portion of the mercantile business and should not be reported. If the same establishments are engaged in the catching of fish or the canning and preserving of the same, the statistics for the entire establishment should be included, as indicated in Rule 1.

For census purposes the term "commercial fishery" includes all fishing operations conducted for profit—i. e., for the sale of the catch, but it does not include the operations of individuals, clubs, etc., catching fish for their own consumption or for sport.

The census reports must cover the year ending December 31, 1908, or the fishing season which most nearly conforms to this calendar year. The fishing season covers different periods in different sections of the country and the reports must be prepared to meet local conditions. The period covered by each report must be given on the title-page of the schedule.

Daily reports and correspondence.—The canvass will be made by the regular employees of the Census Office and the employees of the Bureau of Fisheries detailed for this purpose. Each employee detailed for field work must make a report on a form provided for this purpose for every day on which he is actually employed. At the close of each day the daily report must be forwarded by registered mail in the return penalty envelope addressed to the Director of the Census.

Day's work.—The relative efficiency of each employee engaged in field work will be determined by the number and completeness of the schedules secured, and each daily report must account for the work of the day. Inquiries concerning schedules or further instructions must be made by letter and not on the daily report forms. Employees must give sufficient notice of the date they will complete the district to which they are assigned, so that, if necessary, they may be assigned to other territory without loss of time.

Schedules.—Fishing and the allied industry of packing and canning will be reported on the following schedules:

Schedule EE1–247.—To be used in reporting shore or boat fisheries. If shore or boat fisheries are conducted in connection with vessel fisheries or with canneries or packing houses, reports should also be made on schedules EE2–248 and EE3–249. If it is necessary to make the report on two or more schedules, care should be taken that no amounts are duplicated. The vast majority of the reports will be prepared on schedules EE1–247 and EE2–248.

Schedule EE2–248.—To be used in reporting fisheries conducted with vessels which have been documented. As indicated by the schedule, it was designed for the purpose of securing a separate report for each vessel. If several vessels are operated under the same ownership and it is impracticable to obtain a separate report for each, a consolidated report may be made on one blank covering the catch of all the craft, provided they operate from the same fishing port. In preparing consolidated reports of the catch of two or more vessels, a separate schedule must be prepared for each vessel and answers made to the first four inquiries. The entire catch may then be reported under inquiry 5 of any one of the schedules for fishing vessels. Inquiry 5 of the remaining fishing vessels should be answered by referring to the schedule on which the catch is reported.

Schedule EE3–249.—To be used in reporting packing houses, canneries, and fish curing establishments. Reports must not be made for wholesale or retail dealers in fish unless such dealers are also engaged in fishing. The packing of fresh fish in ice, freezing fish, shucking oysters, or picking crab meat must not be reported when done by dealers, but when these industries are carried on by fishermen, statistics for them must be included in the reports, as indicated above.

In cases where oyster fishermen shuck the oysters before selling them, the agent must report separately under "Remarks" the number and wages of the employees engaged exclusively in shucking. They must also report, by estimate, if necessary, both the value of the oysters in the shell and their value after being shucked.

The three schedules are prepared for the purpose of collecting statistics which will enable the office to make a separate presentation of data for shore fisheries, for vessel fisheries, and canning or packing establishments, respectively, the totals for each branch of the industry to be presented by states. Therefore it is important that separate reports be prepared; if, however, two or more branches are conducted under the same ownership and it is impossible to secure separate reports, a consolidated report may be prepared, but in such cases a full description of the conditions must be given under "Remarks" on the last page of the schedule and percentages furnished which will enable the office to make the separation if necessary. Great care must be taken to avoid duplication of statistics in the preparation of the separate reports.

Districts and lists.—The entire country has been divided into districts and one or more special agents will be assigned to each district. Before starting the canvass each agent must know the extent of his district, and must not visit points outside his district without specific directions to do so. *Each agent will be held accountable for a thorough and rapid canvass of the district to which he has been assigned.* To assist in locating the fisheries, vessels, and establishments to be canvassed, each agent will be furnished with—

1. List of localities where fishing is conducted.
2. List of vessels.
3. Index card for each vessel.
4. List of canneries, etc.
5. Index card for each cannery.

The number at the top of the index card must be written in the upper right-hand corner of the schedule and the card must accompany the schedule when it is sent to the office. When an establishment is to be omitted or a cross reference is to be made, the card with an explanatory note on it should be sent to the office with the daily report. The index numbers of all cards accompanying the daily report should be given in the left-hand margin of the daily report. The list of fishing vessels includes the name and address of the owner in each case, and the agent will find that these addresses include many localities not included in the list of localities. It is expected that the agent will be able to secure the reports for most of the vessels at the fishing grounds or fishing ports, and will therefore confine himself to his list of localities until he has secured as many of the reports as possible, after which the owners of the remaining vessels should be visited. This is a general rule and may be waived by the agent if he finds he can conduct the canvass more economically and advantageously otherwise. He should, of course, secure reports from all fishermen in or surrounding a given locality, so as to avoid revisiting the same neighborhood. *The lists are not complete and must not be accepted as* representing all of the localities nor all of the interests to be enumerated. As the lists were obtained from records that are several years old, the accuracy of the canvass will depend to a very large degree on the diligence of the agents, and they should constantly be on the alert to discover other points at which fishing is conducted and other establishments engaged in the fishing industry. Every name on the agent's list, however, must be accounted for; if a vessel or establishment has changed ownership or gone out of existence, the name and a memorandum of the facts must be given on the agent's daily report.

Each agent will be furnished with a statement of the order in which he will be expected to visit the different points in his district. This order should be followed unless the agent finds that railroad connections and local conditions make a change advisable. In such a case the character and necessity of the change must be stated on the agent's daily report.

Method of canvassing.—It is recognized that the fishing industry differs from all other industries covered by the census, in that it is not conducted during the entire year, and that there are many small unimportant operators. While it is essential that a thorough canvass be made of the industry, the special agent must exercise discretion in securing reports of the operations of the small fishermen and those who are absent at the time of the visit.

On entering a locality where shore fishing is conducted, the agent should first obtain from the principal fishermen and fish dealers a complete list of the fishermen in that vicinity. A rapid canvass should then be made of, and reports obtained from, the fishermen in the immediate vicinity. As these reports are obtained, inquiries should be made regarding fishermen who are absent or who are not easily accessible, and partial reports prepared for them. These partial reports should be corrected if better information is afterwards obtained from dealers or other fishermen. When reports for practically all of the fishermen have been prepared, the agent, instead of making visits to unimportant points in the neighborhood or waiting for other fishermen to return, should complete the canvass of the locality by the use of the estimates he has obtained. The operations of a group of fishermen may be included in one schedule if an accurate estimate of the entire catch can be obtained. The estimated reports should, if possible, be the result of interviews with more than one person, so as to avoid the possibility of exaggerated statements, and should contain under "Remarks" a statement of the conditions under which they were obtained.

In cases where reports are prepared in the manner suggested in the preceding paragraph the agent will probably find it necessary to retain all or some of the schedules for a locality until he leaves the vicinity, so that if better information shall be obtained after the report has been wholly or partially prepared he can substitute it, and so that he can avoid duplication in the reports. If the schedules are thus retained to be sent in later, a memorandum should be made on each schedule showing the date of the daily report on which it was reported.

In visiting a locality the agent should not ask "*Is* there any commercial fishing here?" but he should ask "*Was* there any fishing here during 1908?" There are localities where fishing is carried on at certain seasons only, and at the time the agent calls there may be no one fishing. Cases will be found where shore fishermen live in one state and fish in the waters of another state. For example, shore fishermen living in New Jersey may go into Virginia waters at a certain season to fish. In such cases the fishing must be reported by both the agent in Virginia and the agent in New Jersey. When the report covers operations in different states, full explanation must be made under "Remarks" on the last page of the schedule. This explanation must give the names or description of the different localities in which the fishing covered by the schedule was carried on and the quantity of the catch in each locality.

In preparing reports for a number of fishermen operating out of the same port, care must be taken to avoid duplication. Each schedule must be complete and distinct, so that a uniform tabulation can be made in the office.

It is especially difficult to obtain statistics for fishing vessels that are absent from the home ports for considerable periods. For this reason it will generally be advisable to obtain reports for the fishing vessels of a locality first, and while the shore fisheries and establishments are being enumerated other vessels may come in. There are comparatively few ports from which such vessels operate, and the special agents must resort to every possible means to obtain information concerning them.

If an agent finds that the canvass of a district to which he has been assigned can not be finished because vessels operating from points in it are out at the fishing grounds, he should not remain indefinitely in the district, but must advise the office of the probable number and size of the vessels from which he has not been able to obtain reports, and await instructions. However, if he is satisfied from inquiry that the vessels are comparatively unimportant, he should obtain all available information concerning them, prepare for each a partial report containing the name and address of the owner, the name, net tonnage, and value of the vessel, and general information concerning the character and extent of the catch, and forward same to the office with proper letter of explanation. The necessity of remaining in a locality awaiting the return of vessels is left largely to the discretion of the agent.

Remote localities.—While the entire country bordering on waters from which commercial fishing operations can be carried on must be covered, agents may find that some fishing operations are carried on in remote localities not accessible by railroad or boat, and that no exact information concerning them can be obtained without a long, expensive trip by the use of livery. If in such cases the agent can secure satisfactory information that the year's catch was comparatively unimportant, he should not incur the expense of the trip, but should obtain the best information possible from persons who are familiar with the operations of the fishermen, prepare a report, and give explanation under "Remarks."

In cases where the fisherman is absent when the agent calls and it is evident from a personal inspection that his operations for the year were unimportant, the information should be obtained from some one familiar with the value of the boats, equipment, and the year's catch.

General report.—Each agent will be required to furnish a general statement of conditions and recent developments in the fishing industry in the district to which he is assigned. Detailed answers to the following inquiries will develop these conditions, and the agent must submit the questions to the principal fishermen of each locality and make such memoranda as will enable him to make a full report when the canvass of the district is finished.

1. Has the past season been an average one, an unusually good one, or an unusually poor one?
2. Has there been any general change in the apparatus used for catching fish in the last two or three years? If so, describe briefly.
3. What are the principal nationalities of the fishermen?
4. Has there been any considerable change in the nationality of the fishermen in the last few years? If so, describe briefly.
5. What kinds of fish, if any, are being caught in smaller quantities in the last few years?
6. What kinds of fish, if any, are being caught in greater quantities in the last few years?
7. What kinds of fish, if any, have been caught for the first time in the neighborhood in the last year or two?
8. What conditions, if any, exist that make the fishing unusually difficult or unprofitable?
9. Are these conditions increasing or decreasing?
10. Has any disease affected the fish during the past year? If so, describe briefly the extent and nature of the disease and the kind or kinds of fish affected.
11. Describe briefly the nature and extent of loss of life and property during the year.

In addition to the foregoing inquiries, the agent is at liberty and will be expected to ask such other questions as will tend to elicit valuable information as to the conditions of the industry in the section of the country in which he is working.

Schedule for Vessel Fisheries EE2-248.

Title-page.—The name and post-office address is not necessarily that of the owner of the vessel. It may be the name and address of the person or company operating the fishery, as in some cases the vessels are chartered and the owner is not connected with fisheries.

Fishing port.—The term "fishing port" is generally understood by vessel fishermen, and means the port at which the catch is ordinarily landed. As a rule, the homes of the fishermen are at the fishing port.

Hailing port.—The hailing port of a vessel is the port at which it is documented in the customhouse and from which its official papers issue.

Name of vessel.—The full name of the vessel should be given. For example, if the name of the vessel is *Charles Macalester* it should be so reported, and not as the *Macalester*. If the name of the vessel has been changed during 1908, that fact should be noted under "Remarks."

Net tonnage.—The net tonnage is given in the official papers of a vessel and is also cut on the vessel itself. The owner or captain will generally know the net tonnage.

Certificate.—The certificate should show the time covered by the report. If the vessel was sold or destroyed during the year, the fact should be noted under "Remarks." A space is provided for the signature of the person furnishing the information for the report and the schedule should ordinarily be signed; but if for any reason it is impracticable to obtain a signature, it may be omitted. In such cases the agent should supply the name of the person who furnished the information. If the post-office address of the person furnishing the information is different from that given on the face of the schedule, it should be reported.

Capital invested.—The answer to this inquiry should cover the entire investment. If vessels are chartered or buildings or apparatus are rented, they should nevertheless be reported. If such vessels or apparatus are included in another fisherman's report, an explanation should be made under "Remarks," so that the duplication may be eliminated. The amount reported should be the value of vessels, buildings, and apparatus at the *beginning of the year covered by the report.* All vessels equipped with mechanical propelling power are considered as "steam" or "motor." A vessel having both sails and steam power would be classed as "steam."

The term "transporting vessels" includes all vessels connected with the fishery, but not actually engaged in fishing. For example, it includes towboats engaged in hauling vessels carrying fish, vessels used as cold-storage barges or to live on, watch boats, and lay boats. If a transporting vessel is not connected with vessel fisheries, that fact should be stated. It might be connected with a cannery or packing house or even with a shore fishery. Vessels engaged in both fishing and transporting should be reported as fishing vessels, but the fact that they were also engaged in transporting should be noted under "Remarks." The value of outfit is, strictly speaking, not an item of capital but an item of expense. The answer to this inquiry, therefore, should show the total outlay for outfit during the year. Many vessels will, of course, be fitted with a new supply of provisions, fuel, bait, etc., several times a year. Care should be taken that the answer does not show the value of only one complete outfit for the vessel. It is believed that the list of apparatus given on the schedule will cover practically all the kinds in general use. Nevertheless, blank lines have been added, and if the agent finds any apparatus in use that is not included in the list, he should report it on one of these lines and should, in addition, give a general description of the apparatus under "Remarks," with a diagram, if necessary. If shore and vessel fisheries are carried on under the same ownership, it will be necessary to fill out more than one blank, but it is not necessary to divide the value of shore and accessory property and cash, etc. The value of these items may be reported on any one schedule and reference to that schedule made on the other schedules.

In some states private or cultivated oyster beds are leased for a term of years or actually owned by the operators. This, however, is not the universal practice, and as it will be impossible to obtain the total value of all oyster beds, this item must not be included in the values reported for answer to inquiry 1.

Proprietors, firm members, and independent fishermen.—Stockholders of corporations should not be reported unless they are also employees of the company. A person fishing on shares, delivering a part of the catch to another person and selling the remainder, should not be considered as an independent fisherman; in this case the person to whom a part of the catch was delivered should be considered the proprietor. It is desired to show in the report the total number of persons engaged in fishing. For this reason it is necessary to indicate whether the proprietor was actually engaged in fishing. In the great majority of cases the proprietor will be found to be so engaged, but in cases where he is not, this fact should be indicated in the space provided. If the ownership of the vessel is in shares, a number of which are held by parties who take no part in its management, these parties should be reported as "shareholders." Persons reported in inquiries 2, 3, and 4 should not be duplicated when more than one schedule is secured for operations carried on under the same ownership.

Salaried employees.—There will probably be comparatively few cases where it will be necessary to answer this inquiry. It applies only to large companies having a managing office in which records of the fishing are kept by salaried employees. Persons reported in this inquiry should not be reported on another schedule.

Vessel crew.—The regular crew, including the fishermen on the vessel, should be reported as "vessel crew." If the captain or any other member of the crew has been reported as a proprietor, he should not be reported here. Where fishermen are working on shares, it will be necessary to estimate the annual wages. Where board is provided for fishermen as part compensation, the value of provisions thus used should not be included in wages, but should be reported separately as provided for in the schedule.

Quantity and value of catch.—The total catch should be reported. The number of pounds should be obtained if possible, but in cases where it is impossible to estimate the weight the quantity should be reported by some other unit of measurement, the unit used being specified. If the quantity is reported in barrels, casks, boxes, baskets, or similar measure, the size of the unit should be stated. It will probably be necessary in most cases to report the quantity of oysters, clams, etc., in bushels. When oysters are reported, a statement should be made showing whether they were taken from public or from private beds. The quantities and values of market and seed oysters must be reported separately.

The prices of fish and fish products vary greatly, according to the season or the state of the market. Agents must familiarize themselves with the prices prevailing in the section of the country in which they are employed, and in every instance check the quantities and values reported so as to verify the average price and see that it is in harmony with actual conditions. In cases where fishing operations are conducted in connection with a packing house or cannery, the two operations being carried on by two different sets of employees, the entire catch of fresh fish should be reported on the schedule for "Vessel fisheries" or "Shore and boat fisheries," as the case may be, and the products of the packing house or cannery should be reported on the schedule provided for the purpose. The two schedules should be attached to each other when sent to the office.

In cases where fishermen salt or smoke a part of their catch, the same employees being engaged in both the fishing and the salting or smoking, the entire report should be made on a schedule for "Shore and boat fisheries" or for "Vessel fisheries," as the case may be. In such cases each kind of fish caught by each kind of apparatus should be reported in the condition it was when it left the fishermen's hands—for example, "fresh cod," "salted cod," or "smoked herring." If the fishermen are employed in connection with a cannery, the fish will leave their hands fresh, and should be reported in this way. If they salt or smoke a part or all of their catch, the fish so treated should be reported as they leave their hands; that is to say, as salted or smoked. In reporting fresh fish the weight before being cleaned, commonly known as "round weight," should be given.

When it is necessary for the fisherman to estimate the quantity and value of the catch, the total quantity and the total value should be entered and the attention of the informant called to such entries before the schedule is signed.

In reporting a transporting vessel, it is of course unnecessary to answer the question relating to the catch.

It is the intention of the office to publish separately the quantities and values of each species of fish caught during 1908. It is possible that some difficulty will be encountered in obtaining complete returns in this detail, and for this reason the attention of the agents is particularly called to this phase of the inquiry. It will be the natural inclination of the fishermen, in giving an estimated report, to mention only the principal kinds of fish caught, but the agents must use every effort to obtain a complete list of the species taken during the year, together with their quantities and values.

It is frequently found that, while fishing operations may be carried on particularly for the capture of a certain species of fish, still other varieties will almost invariably be taken. These other varieties may not appear to the fishermen to be of much importance, but it is believed that the quantities thus caught will in the aggregate be considerable.

The last report of the Bureau of Fisheries for the state in which the agent is working will show, by counties, the quantities and values of each species of fish caught during the year covered by the report, and it will therefore be well for the agent to familiarize himself with this list.

SCHEDULE FOR SHORE AND BOAT FISHERIES EE1–247.

If several fishermen work together in a sort of partnership arrangement, one report should be made for them. When a fisherman works on shares—that is, keeps a part of his catch and delivers the other part to his employer—he should not be considered as an independent fisherman.

The instructions for filling the schedule for "Vessel fisheries" will cover most of the inquiries on the schedule for "Shore and boat fisheries." Special attention is, however, called to the following points:

Locations.—The location reported should be the point on shore from which the fishing operations are conducted. In many cases a fishing camp is established as a base of operations.

Waters where fishing is conducted.—The answer to this question should give the name of the body of water where the fishing is conducted, as, for example, the name of the river, inlet, bay, or sound.

Wage-earners.—Only employees actually connected with the fishing should be reported as wage-earners. Shoresmen should include all shore employees directly connected with the catching of fish; for example, it would include persons engaged in mending nets.

SCHEDULE FOR PACKING HOUSES AND CANNERIES EE3–249.

This schedule is intended to cover all packing, preserving, and curing of fish. The operations are not necessarily conducted in buildings, but fish may be salted or otherwise preserved on the beach or even on the deck of the fishing vessel. If the packing or curing is done by the fishermen, the report should be made as indicated under "Quantity and value of catch," above.

If an individual or company operates plants in different states, a separate report should be made for the plants in each state, as it is desired to present statistics separately for the several states.

Wage-earners.—To obtain the average number of wage-earners employed during the year, the average number employed during the various months should be added and the total divided by 12. The word "none" should not be used in answer to the inquiry as to the least number employed at any one time in the case of an establishment that had no employees for a part of the year, but the smallest number employed at any one time should be given.

Fresh fish received at plant.—This should include all fish received at the plant. Spoiled fish received by a fertilizer plant should be reported. If imported fish were received at a plant, that fact should be stated. If partially treated fish are received at the plant and the process completed, the quantity of partially treated fish received at the plant should be reported separately from the quantity of fresh fish received.

Products.—Under this head should be reported the kind, quantity, and value of fish or sea products, and the nature of the process of treatment (canned, packed, smoked, salted, made into fertilizer, etc.). If the quantity can not be reported in pounds, it should be reported in other terms, and the unit of measurement should be stated. If barrels or casks are reported, their size should be stated. If canned goods are reported in number of cans, the number of cans of each size should be stated; if number of cases are reported, the size of the cans and the number of cans to each case should be given. If canned oysters are reported in pounds, the agent must be careful that the weight given represents the actual contents of the cans. The contents of a 1-pound can of oysters may weigh 10 ounces. Therefore in this case sixteen 1-pound cans of oysters should be reported as 10 pounds. If by-products are reported, the various kinds should be named or described, and the quantities and values of the principal by-products should be reported separately.

The difference between the weight of the green fish and the finished product of the cannery depends largely upon the process employed and the character of the finished product. This variation, however, must be carefully noted at the time of preparing the reports, and when it is excessive or apparently insufficient, a proper memorandum of explanation should be given under "Remarks" on the last page of the schedule.

LIST AND DESCRIPTION OF KINDS OF FISH.

ABALONE (*Haliotis*).—A mollusk found on the coast of California, especially abundant in the neighborhood of San Diego. It is also called "sea-ear," "ormer-shell," "ear-shell," etc. Different species are known as red abalone, black abalone, and rough abalone. The shells are largely sold for commercial purposes, many being shipped to Europe. The flesh is salted and dried and used for food by the Chinese.

ALBACORE.—*See* Horse mackerel.

ALEWIFE (*Pomolobus pseudoharengus* and *P. æstivalis*).—These two species are generally known indiscriminately as alewives, and are found in waters adjacent to the sea. *P. pseudoharengus* is never found south of the Neuse River, in North Carolina. It is known along the Potomac as "branch herring;" on the Albemarle as the "big-eyed herring" and the "wall-eyed herring;" in New England as "alewife," and on the Connecticut as "ellwife" and "ellwhop." It appears in the rivers three or four weeks earlier than the "glut herring" or the "shad." *P. æstivalis* is found from the Carolinas to the Gulf of Maine. It is known in the Chesapeake and Albemarle as "glut herring;" in the Ogeechee as "English herring;" in the St. Johns as "herring," and in Massachusetts and during the later runs in the Rappahannock as the "blueback;" also known as "black-belly," "saw-belly," and "kyack." It is less abundant than *P. pseudoharengus*, and much less valuable as a food fish. Both species average about a half pound in weight and 8 to 10 inches in length. They are caught in nets, seines, weirs, etc., and are of very great importance as food fish. They are also used for bait. The name is also applied to the menhaden (*Brevoortia tyrannus*) in Delaware, Maryland, and Virginia.

ALFIONE (*Rhacochilus toxotes*).—A food fish found on the California coast from Cape Mendocino to San Pedro. It is also called "perch" and "sprat." It reaches a length of 18 inches and a weight of 5 pounds. It is the most important of the surf-fishes.

ALLIGATOR (*Alligator mississippiensis*).—The alligator is found in the streams and swamps of the Southern states, and more or less numerously along the coast from South Carolina to Texas. It is also called "cayman." Alligators attain a length of 12 feet, and average about 10 feet. They are captured for their hides, oil, ivory, flesh, skeletons, and eggs.

AMBER-FISH (*Seriola*).—A food fish found from Cape Cod to Cape Hatteras. It is known as "jack-fish" on the Carolina coast, and "amber-fish," "shark's pilot," and "rudder-fish" elsewhere. The average length is 24 inches; average weight, 7 pounds. Another species found on the California coast is known as "yellow-tail."

ANCHOVY (*Engraulididæ*).—These are small fishes of the genus *Anchovia* common on the Atlantic coast from Cape Cod to Texas; also on the coast of southern California, and the genus *Engraulis* common from Alaska to Lower California. The silver anchovy (*Anchovia browni*) is the common Atlantic species. It is also known as "sardine" and "spearing," and with other anchovies enters into the composition of "white bait." The California anchovy (*Engraulis mordax*) is the largest and most valuable food species. It is mostly preserved in oil or made into fish paste. The name is also applied to preparations of other fish, especially young herring and sprat.

ANGEL-FISH.—1. A name applied to the moonfish, or spadefish (*Chætodipterus faber*), from Florida to Charleston. 2. Small, beautifully tinted fish (*Holacanthus*), found in tropical waters, especially among coral reefs. They are sold for exhibition in aquaria and also for food.

ATKA-FISH (*Pleurogrammus monopterygius*).—A fine food fish found among the Aleutian Islands. The average weight is about 2 pounds and average length about 16 inches. Also known as "Atka mackerel."

BARRACUDA (*Sphyræna argentea*).—An excellent food fish caught on the California coast from San Francisco southward. It reaches a length of about 5 feet and a weight of about 12 pounds. It is caught with hand lines and by trolling, and when dried and salted makes excellent food. The great barracuda (*S. barracuda*), also known as "picuda" or "becuna," is found on our coast from Pensacola to Charleston and is the largest of the genus, reaching a length of 6 feet. Smaller species (*S. borealis* and *S. guachaucho*) are found as far north as Cape Cod, but are not highly valued as food fish.

BASS.—*See* Black bass, Calico bass, Redfish, Rock bass, Sea bass, Striped bass, *and* White bass.

The "yellow bass" or "brassy bass" (*Morone interrupta*) is found throughout the lower course of the Mississippi; the "mud bass" (*Acantharchus pomotis*) in the coastwise streams from New Jersey to North Carolina; the "silver bass" (*Hiodon tergisus*) in the Ohio Valley and northward to the upper Missouri. The "Otsego bass" is the whitefish (*Coregonus clupeaformis*) of Otsego Lake, New York; the "little bass," the little roncador (*Genyonemus lineatus*) of San Francisco.

BELUGA (*Delphinapterus leucas*).—A whale abundant in the north Atlantic, north Pacific, and Arctic Oceans. Specimens are occasionally taken as far south as Cape Cod. It is also called "white whale," "whitefish," "porpoise," "dauphin blanc," "marsoon," etc. It attains a length of 15 feet and is captured for its oil and skin. The oil is sold under the name of "porpoise-jaw oil;" the skin is made into leather.

BIG-EYED MACKEREL.—*See* Chub mackerel.

BILL-FISH.—A name applied to the gar-pike (*Lepisosteus osseus*), to the garfish (*Tylosurus marinus*), and to the spearfish (*Tetrapturus imperator*).

BLACK BASS (*Micropterus salmoides* and *M. dolomieu*).—These two species are known, respectively, as "large-mouth black bass" and "small-mouth black bass." The former is found generally in sluggish waters from Dakota to New York and south to Florida and Mexico. It is known in the Great Lakes region as "Oswego bass," in Indiana as "moss bass," in Kentucky as "jumper," in North Carolina as "chub" and "welshman," and in the Southern states as "trout," "green bass," and "bayou bass." The small-mouth bass is generally found in clear running streams from Dakota to the St. Lawrence, and south to South Carolina, Alabama, and Arkansas. In the Southern states it is also called "jumper," "perch," "trout," "mountain trout," etc. Each species is from 1 to 2½ feet in length and weighs from 2 to 8 pounds. They are caught with hook and line and furnish a considerable quantity of excellent food. The name is also applied to the black rockfish (*Sebastodes mystinus* and *S. melanops*) in Puget Sound.

BLACKFIN.—A whitefish (*Leucichthys nigripinnis*) found in Lake Michigan; also called "bluefin."

BLACKFISH (*Globicephalus melas*).—An important and abundant small whale found on the Atlantic coast as far south as New Jersey. It is also called "pilot whale," "grind whale," etc. Its average length is from 15 to 18 feet; average weight, 1,000 pounds. It is captured by being stranded on the shore and by harpooning, and is valuable for its oil. Fishermen sometimes use this whale for food and bait. The name is also applied to the sea bass (*Centropristes striatus*) south of Cape Hatteras and about Marthas Vineyard, and to the tautog (*Tautoga onitis*) on the coast of New York and New Jersey.

BLACK HORSE (*Cycleptus elongatus*).—A sucker found in the larger streams of the Mississippi Valley. It is also called "gourd-seed sucker," "Missouri sucker," "sweet sucker," and "suckerel." It reaches a length of 2½ feet and a weight of from 5 to 12 pounds. A good food fish.

BLENNY (*Blenniidæ*).—A fish of little economic value, found on the Atlantic, Pacific, and Gulf coasts, sometimes sold in the market as "eels."

BLINKS.—One-year-old mackerel, graded fourth in the markets.

BLISTER.—A very young oyster.

BLOATER.—A fat herring or mackerel.

BLUEBACK.—1. An important salmon (*Oncorhynchus nerka*) found on the Pacific coast from the Columbia River northward. In the

upper Columbia and in Alaska it is called "redfish;" in the lower Columbia, "blueback;" in Puget Sound, "sockeye;" and in the Fraser River, "suk-kegh." It averages about 8 pounds in weight and ranks next to the Chinook salmon in value at the canneries. 2. The name is also applied to the "glut herring" (*Pomolobus æstivalis*) in Massachusetts and in the later runs of the Rappahannock.

BLUE COD.—*See* Cultus cod.

BLUEFIN (*Leucichthys nigripinnis*).—One of the whitefishes found in Lake Michigan; also called "blackfin."

BLUEFISH (*Pomatomus saltatrix*).—A very gamy food fish found on the Atlantic and Gulf coasts. On the coast of the New England and Middle states it is called "bluefish;" in Rhode Island, "horse-mackerel;" south of Cape Hatteras, "skipjack;" in North Carolina, Virginia, and Maryland, "tailor" and "greenfish;" in the Gulf of Mexico, "bluefish." Young bluefish are called "snapping mackerel," "snappers," and "salt-water tailors" in some parts of New England; "blue snappers" about New Bedford, and "skip mackerel" about New York. Bluefish vary in weight from 1 to 20 pounds, according to season and locality. Large numbers are caught during the summer months with nets, traps, seines, and hand lines. The name is improperly applied to the squeteague (*Cynoscion regalis*) from southern New Jersey to Virginia, to the black sea-bass (*Centropristes striatus*) at Newport and New Bedford, to the "greenfish" (*Girella nigricans*) on the California coast south of Monterey, and to the bonito (*Sarda sarda*) in the markets.

BLUEFISH MUMMICHOG.—*See* Mullet.

BLUNT-NOSED SHINER (*Selene vomer*).—A familiar food fish found along the Atlantic coast from Florida to Cape Cod and in the Gulf of Mexico. It is known in various places as "hogfish;" in North Carolina, as "moonfish" or "sunfish;" in Florida, as "moonfish;" at Woods Hole, as "humpbacked butterfish;" and in the New York market and Narragansett Bay, as "pug-nosed shiner." It is from 8 to 12 inches long.

BOCCACCIO.—*See* Rockfish.

BONITO (*Sarda sarda*).—A food fish found in the Atlantic Ocean. It weighs from 2 to 10 pounds, and is caught with hand lines and in nets. The name is also applied to all the larger scombroids, and to the cobia (*Rachycentron canadum*) in the Chesapeake.

BOWFIN (*Amiatus calva*).—A fresh-water food fish found in the Great Lakes and in the streams which flow into the south Atlantic and the Gulf of Mexico. It is also called "dogfish," "sawyer," "mud-fish," "grindle," etc., in different localities. It reaches a weight of 10 to 12 pounds, and is caught with hook and line. It is used for food in some states.

BOWHEAD (*Balæna mysticetus*).—A whale of great commercial importance found in the Arctic regions. It is the most valuable of all whales. It yields large quantities of oil. It has the finest and longest baleen.

BREAM.—A name used in many localities, generally with some descriptive prefix, for the common fresh-water sunfish. At Charleston the sailor's choice (*Lagodon rhomboides*) is known as "salt-water bream." The golden shiner (*Abramis crysoleucas*) is also called "bream" in some localities, as is the rockfish (*Sebastes marinus*).

BROOK TROUT.—*See* Speckled trout.

BUFFALO FISH, RED OR BIG-MOUTHED BUFFALO (*Ictiobus cyprinella*); BLACK OR MONGREL BUFFALO (*I. urus*); and SMALL-MOUTHED OR WHITE BUFFALO (*I. bubalus*).—These fresh-water suckers are common to the waters of the Mississippi Valley and sometimes weigh 30 to 40 pounds. They are caught with nets and hand lines. "Buffalo carp" is a name sometimes erroneously applied to them.

BULLFROG (*Rana catesbiana*).—A very familiar fresh-water amphibian found in nearly all localities in the United States. It is the largest of the frogs, sometimes reaching a length of 8 inches along back. The hind quarters are used extensively for food.

BULL-HEAD.—*See* Horned pout.

BURBOT (*Lota maculosa*).—A fresh-water fish found in most of the lakes and streams in the northern part of the United States. In various localities it is called "ling," "lawyer," "lake cusk," "eelpout," "dogfish," "chub-eel," "fresh-water cod," "mother of eels," "aleby trout," etc. It reaches a length of 30 inches.

BUTTERFISH (*Poronotus triacanthus*).—A food fish found on the Atlantic coast from Maine to Florida. It is called "butterfish" in Massachusetts and New York, "harvest-fish" in New Jersey, "dollar-fish" in Maine, "sheepshead" and "skipjack" about Cape Cod, "pumpkin-seed" in Connecticut, and "starfish" at Norfolk. It has an average length of 7 to 8 inches, and is caught in traps and pounds.

CABRILLA.—A name applied indiscriminately to several serranoid fishes of the southern coast of California. They are also called "rock bass," "kelp salmon," "Johnny Verde," "lockee cod" (Chinese), etc. They are from 1 to 2 feet long, weigh 2 to 5 pounds, and are used extensively for food.

CALICO BASS (*Pomoxis sparoides*).—A food fish found in the Great Lakes, in the Mississippi Valley, and in the streams of the Carolinas and eastern Georgia. In Lake Erie and in Ohio generally it is called "strawberry bass" or "grass bass;" in Lake Michigan, "barfish;" in Illinois, "calico bass;" in the South, "goggle-eye" or "goggle-eyed perch;" also sometimes called "bitter-head," and "lamplighter." It averages from 1 to 2 pounds in weight, and is caught with hook and line.

CANDLEFISH.—*See* Eulachon. The black candlefish (*Anoplopoma fimbria*) is found on the Pacific coast from Monterey northward.

CAPELIN (*Mallotus villosus*).—A small fish of the smelt family found in the north Atlantic as far south as Maine, in Bering Sea, and in the Arctic Ocean. It reaches a length of about 12 inches. It is valuable food for other fish, especially the cod, and is used extensively for bait. They are caught in seines and dip nets, generally at night. The name is incorrectly applied to the silverside (*Menidia notata*) in the vicinity of Boston.

CARP (*Cyprinus carpio*).—A fresh-water food fish of great interest to fish culturists, now found in ponds and streams in nearly every state of the Union. As a result of domestication several varieties have arisen, the principal ones being the "scale carp," heavily scaled, the "mirror carp," with a few series of very large scales, and the "leather carp," naked. The size varies with the temperature and clearness of the water, the abundance and nature of the food supply, the kind of bottom, etc. They live to a ripe old age, and sometimes attain a weight of more than 40 pounds. Also known as "German carp."

CATFISH (*Siluridæ*).—The American species include the sea catfishes of the Atlantic coast, the channel cats of all the rivers east of the Rocky Mountains, the horned pout widely distributed through the brooks and ponds of the states, and the diminutive mad toms. The various species are distinguished by the common names of "channel cat," "blue cat," "Mississippi cat," "mud cat," "flannel-mouth," "horned pout," "bull-head," "minister," "goujon," "bashaw," "gaff-topsail," etc. They vary in length from 1 to 5 feet and in weight from 2 to 150 pounds. They are caught by means of nets ,traps, hand lines, and jugging, and are largely used for food.

CAVALLA. *See* Crevallé.

CERO.—*See* Spanish mackerel.

CETACEANS.—Marine mammals, more or less fishlike in form, found in all seas, such as whales, dolphins, porpoises, etc.

CHANNEL-BASS.—*See* Red-drum.

CHICKEN HALIBUT.—A name applied to small or young halibut. They are sold at a slightly higher price per pound than the common-sized fish. The name is also incorrectly applied to the summer flounder (*Paralichthys dentatus*).

CHINOOK SALMON.—*See* Quinnat.

CHOGSET (*Tautogolabrus adspersus*).—This fish is found mostly in bays and harbors on the coast north of New York. It is also called "cunner," "sea perch," "perch," "bergall," "nippers," "bait-stealer," etc. It is similar to the tautog in appearance and is generally associated with it; it is from 8 to 10 inches long, and weighs about 1 pound. It is caught in bag nets and with hook and line, and in some localities used for food.

CHUB.—This name is given most frequently to various species of the *Cyprinidæ*. They are found in all parts of the United States, but have no great value as food fish. The name is also applied to the tautog (*Tautoga onitis*) in New Jersey and in the Chesapeake, to the spot (*Leiostomus xanthurus*) at Charleston, S. C., and to the large-mouth black bass (*Micropterus salmoides*) in North Carolina.

CHUB MACKEREL (*Scomber japonicus*).—A food fish of much less value than the common mackerel, which it closely resembles. It is found irregularly along the Atlantic and Gulf coasts and in the Pacific as far north as Monterey. It is also called "thimble-eye," "big-eyed mackerel," "bull mackerel," "easter mackerel," "tinker mackerel," and "little mackerel." It reaches a length of about 1 foot, and on account of its small size very little attention is paid to it where the common mackerel is found.

CIGAR-FISH.—*See* Round robin.

CISCO (*Leucichthys artedi*).—One of the lesser whitefishes, found in the Great Lakes and neighboring waters. Other names are "lake herring," "Michigan herring," etc. The usual length is a little more than 12 inches. It belongs to the salmon family. The name is also applied to a related species of less economic importance.

CLAM.—A name given to bivalve mollusks largely used for food and bait; found on all our coasts. Various species, most of which are edible, are known by the names of "soft clam," "long clam," "butter-fish," "mananose," "nanninose," "squirt clam," "quahaug," "hard clam," "surf clam," "sea clam," "hen clam," "beach clam," "dipper," "skimmer," "painted clam," "cuneata clam," "round clam," "little-neck clam," "gapers," "tellens," "flat clam," "razor clam," "razor-fish," "knife-handle," "bull-nose," etc. The fishing or digging of these bivalves forms an important industry in both the Atlantic and Pacific states. Dredges, rakes, tongs, hoes, forks, and baskets are used in gathering them. Large quantities are salted or pickled and sold for bait.

COBIA (*Rachycentron canadum*).—One of the most important food fishes of Maryland and Virginia, and found less abundantly along the entire coast from Cape Cod southward. It is called "bonito" and "coalfish" in the Chesapeake; "sergeant-fish" in southern and eastern Florida; "ling" and "snooks" in western Florida; and "crab-eater." It averages from 2 to 3 feet in length.

COD (*Gadus callarias*).—One of the most important food fishes of the United States. It is caught most extensively along the coasts of the Middle states, New England, and British America. It varies in weight from 3 to 75 pounds. It is caught with hand lines, trawls, nets, etc., and is sold fresh, pickled, salted, and dried. Food preparations, such as boneless and desiccated fish, are also made from cod. The sounds are used in the manufacture of glue. The Alaska cod (*Gadus macrocephalus*) is an important food fish found from Bering Sea to Oregon.

The skilfish (*Anoplopoma fimbria*) is known as the "black cod." The redfish (*Sebastodes melanops*) is known as the "red cod."

The cultus cod (*Ophiodon elongatus*) is always called "codfish" where the true cod is unknown.

CONCH (*Strombus gigas*).—A large sea snail found on the Atlantic coast and extensively gathered and sold for ornaments, for the manufacture of porcelain and lime, and for medicinal purposes. The animal is used as food in Key West. A valuable pearl is sometimes derived from it.

CRAB.—A general term applied to various kinds of decapod crustaceans found along the entire coast. The different species vary much in size, habit, and use, and are designated blue, fiddler, green, hermit, horseshoe, jonah, kelp, king, lady, mud, oyster, red, rock, sand, sea, soldier, spider, stone, etc. The edible crabs have names applied by the catchers, describing the different conditions of the shell. While shedding they are known as "hard-shell," "comer," "buster," "peeler," and "shedder;" while growing a new shell, "soft-shell," "paper-shell," "buckler," and "hard-shell." The gathering of crabs is an important industry along the entire Atlantic coast. They are caught with scrap nets, dip nets, pots, seines, trawls, hand lines, spears, and tongs, and are used for food, bait, and fertilizers. The fertilizers are sold as "cancerine."

CRAPPIE (*Pomoxis annularis*).—A fresh-water food fish found in the Mississippi Valley. Local names are "bachelor," "new light," "campbellite," "sac-á-lait," "chinquapin perch," etc. It is sometimes confounded with the calico bass (*Pomoxis sparoides*).

CRAYFISH, or CRAWFISH.—A decapod crustacean found in most of the fresh-water streams of North America. It is sometimes called the "spring lobster." The principal supply is obtained at New Orleans, in the Potomac, and near the Great Lakes, and the principal markets are New York and New Orleans.

CREVALLÉ (*Caranx hippos*).—A food fish very abundant on the east Florida and Gulf coasts, and occasionally found as far north as Cape Cod. Local names are "crevallé," "horse crevallé," "horse-mackerel," etc. The average weight is 12 pounds. The name is also applied to the cero (*Scomberomorus cavalla*).

CROAKER (*Micropogon undulatus*).—A food fish found mostly in the South, but sometimes caught as far north as New York. Local names are "crocus" and "ronco." It averages about 10 inches in length. Large quantities are caught in the Gulf with hand lines and seines, and sell at low prices.

Also a local name for blue surf-fish (*Embiotoca jacksoni*) at San Diego, and for the fresh-water drum (*Aplodinotus grunniens*) in northern Indiana.

CULTCH.—The spawn of the oyster; also materials used to form the spawning bed for oysters.

CULTUS COD (*Ophiodon elongatus*).—A common food fish found on the Pacific coast from Sitka to Santa Barbara. Common names are "codfish," "ling," "bastard cod," "buffalo cod," "blue cod," etc. It averages about 8 pounds in weight, and is caught on hooks and in sweep nets.

CUNEATA CLAM (*Gnathodon cuneatus*).—This clam is found in large quantities in the Gulf of Mexico and is used as an article of food. The shell is used for road making. The famous shell roads of the South are constructed of these shells, taken from Lakes Pontchartrain and Salvador.

CUNNER.—*See* Chogset.

CUSK (*Brosme brosme*).—A deep-water food fish found in the Atlantic Ocean north of Cape Cod.

CUTTLE-FISH (*Cephalopoda*).—Mollusks found in large numbers all along the coast. The "common squid," "octopus," "calamary," "sea arrow," etc., are different species found in particular localities. They are caught in fish pounds, seines, weirs, and trawls, and with fishhooks; large numbers are also taken by driving them on shore by "torching." Some are caught with a peculiar arrangement of hooks called a "squid jig." Different species vary in length from a few inches to 50 feet. They are important as a bait for many useful fish and as food for man. Oil, "cuttle bone," a dentifrice, india ink, etc., are also obtained from them.

DACE.—A common name applied to different species of the *Cyprinidæ* family, generally modified by some descriptive prefix, as "horned dace," "red dace," etc.

DIAMOND-BACK.—*See* Terrapin.

DOGFISH (*Squalus acanthias*).—A shark found abundantly in the north Atlantic, sometimes ranging south to Cuba. On the Pacific coast is found *S. sucklii*. It reaches a length of 3 feet. They are captured for their livers and skins, the former producing large quantities of oil, and the latter, when dried, being used for polishing purposes. The names "smooth-dogfish," "horned dogfish," etc., are applied to related species. The name dogfish is also applied to the bowfin (*Amiatus calva*) in the region of the Great Lakes and to the burbot (*Lota maculosa*) about Lake Erie.

DOLPHIN.—1. Cetaceans abundant everywhere in temperate and tropical seas; also known by the names of "porpoise," "cowfish," "herring-hogs," "puffers," etc. Dolphins are from 5 to 15 feet long and weigh from 100 to 500 pounds. They are captured in nets, by harpooning, and by driving them ashore, and are used for bait and

for the oil and leather they produce. 2. A pelagic fish (*Coryphæna hippurus*) sometimes found on our coasts.

DRUM (*Pogonias chromis*).—1. A large food fish found plentifully in the south Atlantic Ocean and Gulf of Mexico and occasionally taken as far north as Cape Cod. The young and adult fish are respectively known as "striped drum" and "black drum." The average weight is 20 pounds. They are caught in seines and gill nets and with hook and line. The flesh is coarse, but sweet and tender. The large and silvery scales are used in the manufacture of "fish-scale jewelry." 2. The fresh-water drum (*Aplodinotus grunniens*) is found in all large bodies of water from the Great Lakes to the Rio Grande. It is known as the "sheepshead" on the Great Lakes; as "perch," "white perch," and "gray perch" on the Ohio River; as "crocus" on the lakes of northern Indiana; as "drum" and "thunder-pumper" in the Southern states; and as "gaspergou" in Arkansas, Louisiana, and Texas. "Jewel-head" is sometimes heard. It reaches a length of 4 feet and a weight of from 40 to 60 pounds. It is a food fish, but not of fine quality. 3. Redfish or red drum (*Sciænops ocellatus*).

DUN-FISH.—Cod or other fish that are slack-salted and dried or cured in a dark room until they turn an amber or dun color. They are much esteemed for food.

EEL (*Anguilla chrisypa*).—A very common food fish found in all parts of the United States east of the Rocky Mountains in both fresh and salt waters. Eels are caught in weirs, nets, traps, pots, baskets, and with spears and hand lines, and are sold fresh and canned. The skin is used for mechanical purposes.

EULACHON (*Thaleichthys pacificus*).—A small fish common in the rivers and coast waters of the north Pacific. The Indian name "oolican" (hoolakins) is often used. The trade name is "candle-fish." On the Columbia River the name "smelt" is used. The length averages a little less than 1 foot. It is an excellent food fish, and is also of importance for the oil it yields, which is used as a substitute for cod-liver oil.

FINBACK (*Balænoptera physalus*).—This is a large whale common to all seas. It attains a length of about 70 feet, and is captured by stranding or by the use of the bomb lance. It yields very little oil or baleen. Other species are found in the north Atlantic and on the Pacific coast.

FLATFISH.—A name applied to a large group of fishes which have the body much compressed, both eyes on one side of the head, the blind side colorless and usually lowermost in the water. It is the common name given to the family of flounders (*Pleuronectidæ*).

FLOUNDER (*Pleuronectidæ*).—The family of flounders is composed of the turbots (*Bothinæ*), the halibuts (*Hippoglossinæ*), the plaices (*Pleuronectinæ*), and probably the soles (*Soleidæ*). The name is variously applied to the flat fishes found on all our coasts, as "American sole," "bastard halibut," "Monterey halibut," "winter flounder," "starry flounder," "rough limanda," "diamond flounder," "long-finned sole," "sand-dab," "rough dab," "Greenland turbot," "pole flounder," "craig flounder," "spotted sand flounder," etc. They are of all sizes and vary in shape; caught in weirs, pounds, seines, and nets, and with hand lines and gaffs, and sold for food and bait.

FUR SEAL (*Collorhinus ursinus*).—A fur-bearing sea mammal found from California northward; especially abundant upon the Pribilof Islands. Its skin is of great commercial value. Its flesh is not used for food except by the natives.

GARFISH (*Tylosurus marinus*).—A fish of little economic importance common on the Atlantic and Gulf coasts from Maine to Texas. It often ascends rivers for great distances. It is also called "needle-fish" in the Gulf of Mexico, "garfish" on the Altantic coast, and "tea-snipe," "silver gar," and "billfish" in different localities. It is about 2½ feet long and weighs about 2 pounds. Other species are known as "needle-fish" and "houndfish" or "agujon."

GAR-PIKE (*Lepisosteus osseus*).—A destructive fish found in the Great Lakes, throughout the Mississippi Valley, and in most of the streams of the Southern states. Other names often used are "gar," "billfish," "swordfish," "long-nosed gar-pike," etc. It reaches a length of 5 or 6 feet. The flesh is tough and not edible.

The short-nosed gar (*L. platystomus*) is smaller than the preceding and has the same geographic distribution, but is less common northward.

The alligator gar (*L. tristœchus*) is found in all waters tributary to the Gulf of Mexico as far north as the Ohio River. It attains a length of 10 feet, but averages about 2 feet. It is of no value as a food fish.

GASPEREAU.—The Canadian name for the alewife (*Pomolobus pseudoharengus*).

GOLDFISH (*Carassius auratus*).—A small fresh-water fish, closely allied to the carp, native to eastern China. They are used only as ornaments for aquaria. The name is also applied to a California damsel-fish (*Hypsypops rubicundus*).

GOODY.—*See* Spot.

GOOSEFISH (*Lophius piscatorius*).—A large sluggish fish found on the north Atlantic coast from Nova Scotia to Cape Lookout. Local names are "angler," "fishing frog," monkfish," "bellows-fish," "molligut," "all-mouth," "wide-gape," "kettleman," etc. It reaches a length of 4 feet and a weight of 40 pounds. Although palatable, it is seldom used for food, being principally used as bait for lobster pots.

GRAMPUS (*Grampus griseus*).—A large dolphin taken on the Atlantic coast. It is also called "cowfish." It attains a length of 15 to 20 feet, and is valuable for the oil it yields. A smaller species (*G. stearnsii*) is found on the California coast.

GRAYLING (*Thymallus signifer*).—A beautiful fish found in Alaska. It averages 10 or 11 inches in length and half a pound in weight. Varieties are found in Montana (*T. montanus*) and Michigan (*T. tricolor*) and are of great interest to anglers.

GRAY WHALE (*Rhachianectes glaucus*).—A large whale found along the Pacific coast; also called "devilfish," "hard-head," "gray back," "rip sack," "mussel digger," etc. It averages 35 or 40 feet in length, and is captured for its oil and baleen.

GREEN TURTLE (*Chelonia midas*).—This turtle is found on the coast from Long Island Sound to Florida and along the Gulf coast. In the different localities it varies in size, from 8 pounds at Beaufort, N. C., to 1,000 pounds at Cedar Keys, Fla. The flesh of this turtle forms the basis of the well-known turtle soup; the eggs are valuable for food and for the oil they yield. A closely related species is found on the coast of southern California.

GRILSE.—A young salmon on its first return to fresh water, usually in its second year of life. It then weighs from 2 to 6 pounds, and is of great value as a food fish. *See* Salmon.

GROUPER (*Epinephelus*).—A food fish found off the south Atlantic coast and in the Gulf. The different species are known as "red grouper," "brown snapper," red-bellied snapper," "black grouper," "jewfish," "warsaw," "spotted hind," "banded grouper," "rock-fish," etc. They vary in size greatly, the "jewfish" exceeding 100 pounds. All are caught with hook and line. The name "grouper" is also applied to the rock cod of southern California and to the triple-tail of the St. Johns River.

GRUNT.—The name of several small *Hæmulidæ* quite common off the south Atlantic and Gulf coasts, and sometimes found on the California coast. Different species are known as "black grunt," "red-mouth grunt," "flannel-mouthed porgy," "pigfish," "hog-fish," "sailor's choice," "sargo," "pork-fish," etc. All are caught with hook and line and are valued as food fish. They make a peculiar grunting noise when taken out of the water.

HADDOCK (*Melanogrammus æglifinus*).—A food fish found in the Atlantic north of the Delaware capes; called "dickie" in some localities. It averages in weight from 4 to 6 pounds. It is extensively caught for a fresh food fish, and is also salted, pickled, and dried. When slack-salted and smoked it is sold under the name of "haddie." The sounds are used in the manufacture of glue. Trawls and hand lines are used in catching them.

HAKE (*Urophycis*).—Not true hakes. A food fish found off the Atlantic coast from Newfoundland to Cape Hatteras. Different species are known as "old English hake," "squirrel hake," "white hake," "ling," "king hake," "codling," etc. They are often prepared under the trade name of "boneless fish." They average from 1½ to 2 feet in length and 3 to 8 pounds in weight, and are caught near muddy bottoms with trawls and hand lines and in weirs and traps. They are eaten fresh, and are salted and dried, and pickled in barrels. The sound, or air bladder, is of great commercial importance in the manufacture of isinglass. The name is also applied to the kingfish (*Menticirrhus saxatilis*) on the coast of New Jersey and Delaware. The California hake (*Merluccius productus*) and the New England whiting (*Merluccius bilinearis*) or "silver hake" are true hakes.

HALIBUT (*Hippoglossus hippoglossus*).—The largest and most valuable of the flat fishes; found in the North Atlantic and Pacific Oceans. It is one of the largest species used for food, sometimes weighing over 300 pounds. The average weight is from 50 to 75 pounds. It is caught with trawls and hand lines. There are three grades of halibut. The "white," which has its underside immaculate, is considered best and brings the highest price; the "gray" is blotched on the under side and sells for a third less; the "sour" is tainted, and brings only about one-fourth as much as the "white." Small young fish, weighing from 10 to 20 pounds, are called "chickens," and are much sought after by epicures. Halibut are sold fresh and are also cured and smoked. The napes are pickled. An oil used for currying purposes is made from the head, and the residue is used as a fertilizer under the name of "chum." *See* Flounder.

HALIOTIS.—*See* Abalone.

HAWKS-BILL TURTLE (*Chelonia imbricata*).—This turtle is found on the Atlantic coast south of North Carolina and throughout the Gulf. It is also called the "tortoise-shell turtle." It reaches a weight of about 300 pounds. It is of no value for food, but is caught for the hornlike scales or plates which cover its bony shell, which form the "tortoise shell" of commerce. A closely related species is found on the Pacific coast.

HERRING (*Clupea harengus*).—A very important food fish found in the north Atlantic as far south as Sandy Hook; it is never found in brackish or fresh waters. "Sperling" and "brit" denote differences in the age of the fish. They weigh from one-half to 1 pound; average length, 10 inches. They are caught in pounds, traps, weirs, and gill nets, and by "torching." As a food fish they are used fresh, salted, pickled, smoked, and canned; used also extensively for bait in the cod, haddock, halibut, and hake fisheries.

The name is also applied to the Gulf menhaden (*Brevoortia patronus*) on the Texas coast and to the menhaden (*B. tyrannus*) in southern Florida. The hickory shad (*Dorosoma cepedianum*) is called "thread herring" in North Carolina. The "big-eyed herring" (*Elops saurus*) appears in America north to the Carolinas and Gulf of California. The California herring (*Clupea pallasi*) is found the entire length of the Pacific coast. The Rocky Mountain whitefish (*Coregonus williamsoni*) is called "mountain herring" in Utah. For "lake herring" and "Michigan herring," *see* Cisco; for "branch herring," "big-eyed herring," "wall-eyed herring," "glut herring," "English herring," "spring herring," and "summer herring," *see* Alewife; for "fall herring," *see* Mattowacca.

HOGFISH (*Lachnolaimus maximus*).—A much-esteemed food fish found about the Florida reefs, where it is caught by line fishermen. It averages 3 to 5 pounds in weight. The name is also applied to the log perch (*Percina caprodes*), to the pigfish (*Orthopristis chrysopterus*), and to the blunt-nosed shiner (*Selene vomer*).

HORNED POUT (*Ameiurus nebulosus*).—A catfish found in the fresh waters of the Eastern, Northern, and Southern states, and in California. It is also called "bull-head," "bull-pout," "minister," etc. It averages about 12 inches in length and 1½ pounds in weight.

HORNEY-HEAD.—A small dace (*Hybopsis kentuckiensis*), found abundantly in rivers from New York to Alabama and in the West.

HORSEFISH.—*See* Blunt-nosed shiner. The name is also applied to the sauger (*Stizostedion canadense*).

HORSEFOOT.—A local name for the horseshoe crab or king crab.

HORSE-MACKEREL (*Thynnus thynnus*).—The largest of the mackerel family, found on the Atlantic coast to Newfoundland and on the California coast to Monterey Bay. Also called "tunny," "tuna," and "albacore." The average length is about 8 feet. A good food fish and yields much oil, etc. The name is also applied to the bluefish (*Pomatomus saltatrix*) in Rhode Island; to the jurel (*Caranx chrysos*) at Fort Macon; to the crevallé (*Caranx hippos*); to the California hake (*Merluccius productus*) on the Pacific coast; and to several Pacific coast species of little importance.

HORSESHOE CRAB (*Limulus polyphemus*).—A crustacean found on the Atlantic coast in large numbers; also called "king crab," "horsefoot," etc. It is caught by hand and in pounds and weirs, and is used for both bait and food, but most extensively for fertilizing purposes.

HUMPBACK (*Megaptera nodosa*).—A whale found in both the Atlantic and Pacific Oceans. It attains a length of 50 feet. It is valuable for its oil, but the baleen is short and of poor quality.

HUMPBACKED BUTTERFISH.—*See* Blunt-nosed shiner.

JACK.—A name applied to the common pickerel (*Esox reticulatus*) in the South, to the bocaccio (*Sebastodes paucispinis*) on the Pacific coast, and to the wall-eyed pike (*Stizostedion vitreum*) in the South.

JACK-FISH.—*See* Jurel.

JACK SALMON.—*See* Wall-eyed pike.

JEWFISH (*Stereolepis gigas*).—The largest food fish found on the Pacific coast, sometimes reaching a weight of 500 pounds. It is also called "black sea-bass." The name is also applied to the black grouper (*Garrupa nigrita*) in Florida and Texas, and to the tarpon (*Tarpon atlanticus*) in Georgia and Florida.

JUREL (*Caranx chrysos*).—A food fish found along the Atlantic and Gulf coasts. It is known about Pensacola as "jurel" and "hard-tail;" along the Florida coast as "jack-fish" and "skipjack;" in South Carolina as the "horse crevallé;" at Fort Macon as the "horse-mackerel;" and about New York and on the coast of New Jersey as the "yellow mackerel." They measure from 12 to 18 inches in length, and are caught in seines.

KILLER WHALE (*Orca orca*).—A whale from 15 to 30 feet long that abounds in both the Atlantic and Pacific Oceans, but is seldom captured. The Makah Indians of Washington consider them choice food. The jaws, studded with strong, conical teeth, are sold as curiosities.

KING CRAB.—*See* Horseshoe crab.

KINGFISH (*Menticirrhus saxatilis*).—A food fish found on the coasts of the Middle and South Atlantic states, and occasionally on the Gulf coast. It is called "hake" in New Jersey, "tomcod" in Connecticut, "black mullet" in the Chesapeake, "sea mink" in North Carolina, and "whiting" in the South. Also a common name for the cero (*Scomberomorus cavalla*).

KING SALMON.—*See* Quinnat.

LADYFISH (*Albula vulpes*).—A fish of wide distribution in temperate and tropical waters; found on the Atlantic coast as far north as Cape Cod, in the Gulf of Mexico, and on the Pacific coast to San Diego. On account of its beautiful color it sells readily, but is not much esteemed as a table fish.

LAKE HERRING.—*See* Cisco.

LAKE TROUT (*Cristivomer namaycush*).—The trout found in the Great Lakes and in the smaller lakes of the Northern states. In different localities the individuals vary greatly in color, size, and shape, and are known by the local names "salmon trout," "namaycush," "togue," "tuladi," "Mackinaw trout," "lake salmon," "black trout," "reef trout," "longe," etc. The "siscowet" is another variety of this species.

LAMPREY (*Petromyzonidæ*).—A fish of little commercial value, found in nearly all the fresh and brackish waters of the United States. It is also known by the names "lamper eel," "nine-eye," etc.

LANT (*Ammodytes americanus*).—A small fish found on the north Atlantic coast, probably as far south as Maryland, and *A. personatus*

in California and Alaska. It is also known as the "sand eel" and "sand-lance," because it frequently imbeds itself in the sand. The average length is about 10 inches.

LING.—A local name given to the hake (*Urophycis*) in the Gulf of St. Lawrence and south of Cape Cod; to the burbot (*Lota maculosa*) in Lake Ontario, the lakes of western New York, and in the New York market; to the mutton-fish (*Zoarces anguillaris*) in different localities; to the cobia (*Rachycentrom canadum*) in western Florida; and to the cultus cod (*Ophiodon elongatus*) about Puget Sound.

LOBSTER (*Homarus americanus*).—A decapod crustacean of great economic importance, found on the Atlantic coast from Delaware to Labrador. It averages about 11 inches in length and about 2 pounds in weight, but the size varies with localities and seasons. It is caught in pots and traps especially constructed for this fishery.

The "spiny lobster" of California and Florida is a different species; it averages 3½ pounds in weight.

LOGGERHEAD (*Thalassochelys caretta*).—A turtle of small economic value, found in the Atlantic as far north as Massachusetts and in the Gulf of Mexico. It reaches a weight of 1,500 pounds, but those taken average only about 50 pounds. They are caught by divers. Only a small number are sold for food, as the flesh is not palatable, but the eggs are highly esteemed. An inferior quality of oil is obtained from this turtle.

LUMP-FISH (*Cyclopterus lumpus*).—An unwieldy fish, widely distributed throughout the north Atlantic, ranging on the coast as far south as Chesapeake Bay. The average weight is about 5 pounds. It is of little economic value, but on account of its bright colors is often found in the markets.

MACKEREL (*Scomber scombrus*).—A very important food fish, found in the north Atlantic south to Cape Hatteras. They range from 9 to 18 inches in length and ½ to 3 pounds in weight, and are caught in purse seines, pounds, weirs, gill nets, etc., and with hook and line. They are sold fresh, salted, pickled, and canned, and are sometimes used for bait. Small mackerel are known as "spikes" (5 to 6 inches long), "blinkers" (7 to 8 inches long), and "tinkers" (9 inches long). *See* Atka mackerel, Spanish mackerel, chub mackerel, horse-mackerel.

MADEMOISELLE.—*See* Yellowtail.

MANATEE (*Trichechus latirostris*).—A sirenian found on the Florida coast in very small numbers; also called "sea-cow." They are from 6 to 8 feet long, and are caught in rope nets and with spears and javelins. On account of their scarcity they have become very valuable as specimens. They are also converted into food, oil, and leather.

MARGATE-FISH (*Hæmulon album*).—A grunt found in southern Florida; known also as "porgy," "market-fish," etc. The largest measure about 16 inches in length. They are caught mostly for bait, but in some places they are sold for food.

MARKET-FISH.—*See* Margate-fish.

MARSHBANKER.—*See* Menhaden.

MATTOWACCA (*Dorosoma cepedianum*).—A poor food fish found on the Atlantic coast from Cape Cod to Florida, ascending rivers. It is called "hickory shad" and "hicks," particularly in the South; "tailor shad," "tailor herring," and "fresh-water tailor" in the Potomac; and "forerunner" and "fall herring" in some rivers, in allusion to the time of its run and that of the "white shad." It averages 12 to 15 inches in length and 2 to 3 pounds in weight.

MEDIALUNA (*Medialuna californiensis*).—An excellent food fish found on the California coast south of Point Conception; also called "half-moon." It reaches a weight of 3 or 4 pounds and a length of about a foot.

MENHADEN (*Brevoortia tyrannus*).—A fish of the herring family, found along the Atlantic seaboard from Maine to Florida, sometimes as far inland as brackish water extends. It is known by a great number of local names, the most common being "pogy," "hard-head," "hard-head shad," "bony fish," "whitefish," "mossbunker," "bunker," "cheboy," "marshbanker," "alewife," "oldwife," "ellwife," "pilcher," "green-tail," "bug-fish," "bug-shad," "bug-head," "fat-back," "yellowtail," "shiner," "herring," etc. The average length is 10 to 12 inches; average weight two-thirds of a pound to 1 pound. They are caught in purse seines, haul seines, gill nets, set nets, and weirs. They are of economic importance mainly for the oil and guano which are produced from them; they are also used as bait for mackerel, cod, halibut, haddock, sea-bass, etc. As a food fish they are sold fresh and salted and canned. "Fish-meal," a food for domestic animals, is also made from them. Another species (*B. patronus*) is found on the Gulf coast.

MENOMINEE (*Coregonus quadrilateralis*).—*See* Whitefish.

MERLUCCIO (*Merluccius productus*).—A poor food fish found on the Pacific coast from Santa Barbara northward. It is also called "hake," "horse-mackerel," etc. It averages 5 to 6 pounds in weight.

MISSOURI SUCKER.—*See* Black horse.

MOON-EYE (*Hiodon tergisus*).—A beautiful fresh-water food fish found in the Lake region and in the larger tributaries of the Mississippi. It is also called "silver bass" and "toothed herring." It weighs from 1 to 2 pounds, and is caught with hook and line and in dip nets. Also a common name for the cisco (*Argyrosomus hoyi*) of Lake Michigan.

MOONFISH (*Chætodipterus faber*).—A food fish caught on the Atlantic coast from Woods Hole southward, in the Gulf of Mexico, and on the California coast. In the northern parts of the Gulf of Mexico it is called "spadefish;" from Florida to Charleston "angel-fish;" and at Beaufort, N. C., "porgee" and "pogy." The average length is not more than 8 inches. A local name for the blunt-nosed shiner (*Selene vomer*) in North Carolina and Florida.

MOSSBUNKER.—*See* Menhaden.

MULLET (*Mugil cephalus* and *M. curema*).—Two species of mullet are found on the Atlantic coast, known as the "striped mullet" and the "white mullet." The former is the larger and has 8 instead of 9 rays in the anal fin and 42 instead of 38 scales between the gill openings and base of the caudal fin. The "striped mullet" is found on the Atlantic coast from Cape Cod to Brazil and on the coast of southern California, ascending streams; the "white mullet," from Cape Cod southward. Local names are "bluefish mummichog," "jumping mullet," "sand mullet," fat-back," "silver mullet," "big-eyed mullet," "blue-back mullet," "liza," or "josea." *M. cephalus* is the most important of all the food fishes of the South, and greatly surpasses *M. curema* both in numbers and in economic importance. It averages about 1 foot in length and 1 pound in weight, but sometimes reaches a weight of 4 to 5 pounds and a length of 24 inches. It is caught in haul seines, gill nets, cast nets, pound nets, etc., and is sold fresh and salted; the roe is also very valuable food, and is sold fresh, salted, smoked, and dried.

For "black mullet," *see* King-fish; for "ground mullet," *see* Whiting. Many suckers of the genus *Moxostoma* are called "mullet," "white mullet," "sucking mullet," etc.

MUMMICHOG (*Paciliidæ*).—These fish are found in the brackish waters along the Atlantic, Pacific, and Gulf coasts, near the mouths of rivers, and in many of the fresh-water streams and lakes. Along the eastern coast they are known as "mayfish," "killifish," and "fundalus;" on the Gulf as "sac-à-lait;" and in the interior as "minnows." They are all small fish, rarely exceeding 4 inches in length. They are not commonly used for food, but are of much importance as food for larger fish and for bait.

MUSKALLUNGE (*Esox masquinongy*).—A rare food fish found in the Great Lakes and Northwest, sometimes appearing in the Ohio. The average length is about 6 feet; average weight, 40 pounds. It is caught in pound nets, with hook and line, and by trawling. Another species (*E. ohiensis*) is abundant in Chautauqua Lake.

MUSSEL (*Mytilus edulis*).—A black, thin-shelled, salt-water mollusk, found on the Atlantic coast as far south as North Carolina and on the Pacific coast to Monterey. They are not used extensively for food, but in New York they are pickled and sold to a local trade. The shells are used as a cultch for young oysters, for paint holders, and for ornaments. Large quantities of another genus (*Modiola*) are sold to farmers along the New Jersey and Long Island coasts for fertilizer trade. The fresh-water mussels (*Unionidæ*) are of much value as food for mammals and birds. The shells are used in making pearl buttons.

MUTTON-FISH (*Zoarces anguillaris*).—A food fish found on the Atlantic coast from Delaware to Labrador. It is also called the "eelpout," "mother-of-eels," "congo eel," "ling," and "lamper eel." It reaches a length of about 20 inches and a weight of 3 pounds. The name is also given to the snapper (*Lutianus analis*) of Florida.

NAMAYCUSH.—*See* Lake trout.

NANNINOSE.—*See* Clam.

NARWHAL (*Monodon monoceros*).—A dolphin found along the northern coast of Alaska and in the Arctic Ocean; also known as the "unicorn." It is 10 to 14 feet long, and bears a tusk 9 feet long. It is captured for its tusks, oil, and flesh.

NORWAY HADDOCK.—*See* Rosefish.

OCTOPUS.—*See* Cuttle-fish.

OLDWIFE.—*See* Menhaden.

OSWEGO BASS.—*See* Black bass.

OTTER (*Mustelidæ*).—The fresh-water otter (*Lutra canadensis*) is widely distributed over the United States. The sea-otter (*Enhydris marina*), highly prized for its skin, is found in the North Pacific. Both are rare.

OYSTER (*Ostrea virginica*).—The most important bivalve found on the coast. There are two classes, "native" and "plants." The former are found on the entire coast; the latter in localities where the cultivation of the oyster is particularly profitable. Oysters are obtained by dredging, raking, and tonging, and are very extensively used in the canning industry. The shells are used in manufacturing lime and cement and for building highways. Native oysters will open about 1 gallon to the bushel; plants do somewhat better. Oysters are graded as "extras," "boxes," "culls," and "cullinteens," according to age, the "cullinteens" being the youngest.

PADDLE-FISH (*Polyodon spathula*).—A ganoid fish, allied to the sturgeon, found in all the larger streams of the Mississippi Valley. It reaches a length of 3 or 4 feet. It is a poor food fish, but the roe is extensively used for caviar. Local names are "spoonbill," "duckbill cat," and "shovelfish."

PEARL OYSTER.—An oyster found on the California coast and in the Gulf of California. The shells are used in manufacturing various useful and beautiful articles.

PERCH (*Perca flavescens*).—This fish, the true perch, is found throughout the Great Lakes region and the rivers of New England and the states east of the Alleghenies as far south as Georgia. "Yellow perch" and "ringed perch" are names in common use; "striped perch" is used at Lake Vincent. Its usual length is about 1 foot and its weight generally less than 2 pounds. It is of moderate value as a food fish, and is caught with hook and line and in pound nets and gill nets.

The name "perch" is also given to the large-mouth black bass (*Micropterus salmoides*) and to the small-mouth black bass (*M. dolomieu*) in the Southern states; to the chogset (*Tautogolabrus adspersus*) in localities in Massachusetts; to the fresh-water drum (*Aplodinotus grunniens*) in the Ohio River; and to the surf-fishes (*Embiotocidæ*) on the Pacific coast. "Black perch" is applied to the triple-tail (*Lobotes surinamensis*) in South Carolina, and to the blue surf-fish (*Embiotoca jacksoni*) on the Pacific coast. "Chinquapin perch" is applied to the crappie (*Pomoxis annularis*) in the lower Mississippi; "gray perch" to the fresh-water drum (*Aplodinotus grunniens*) in the Ohio River; "log perch" to a darter (*Percina caprodes*); "pike perch" to the wall-eyed pike (*Stizostedion vitreum*); "red perch" to the rosefish (*Sebastes marinus*) on the coast of Maine; "ringed perch" to the perch (*Perca flavescens*); "river perch" to a surf-fish (*Hysterocarpus traski*) of California; "Sacramento perch" to a sunfish (*Archoplites interruptus*) of the Sacramento and San Joaquin Rivers; "silver perch" to the yellowtail (*Bairdiella chrysura*) in New Jersey; "striped perch" to the perch (*Perca flavescens*) at Lake Vincent; "white perch" to a surf-fish (*Phanerodon furcatus*) on the California coast; to a bass (*Morone americana*) on the Atlantic coast; to the fresh-water drum (*Aplodinotus grunniens*) in the Ohio River; and "yellow perch" to the perch (*Perca flavescens*).

PERIWINKLE.—A common name for the sea snail (*Littorina*) and whelk (*Fulga*), which are used for bait and sometimes for food on the north Atlantic coast. It also constitutes a large portion of the food supply of various fishes.

PICKEREL (*Esox reticulatus*).—A food fish found in streams and ponds along the Atlantic coast from Maine to Alabama. In the Southern states it is usually called "jack." It reaches a weight of 7 or 8 pounds; averages about half as much.

The name "pickerel" is also applied to the true pike (*Esox lucius*) in the upper lakes; to the "wall-eyed pike" (*Stizostedion vitreum*) in Lake Erie and Saginaw Bay; and to the sauger (*Stizostedion canadense*). The wall-eyed pike (*S. vitreum*) is also called "yellow pickerel" about Lake Erie. The brook pickerels (*E. americanus* and *E. vermiculatus*) are found, respectively, along the Atlantic coast and in the Mississippi Valley. "Salt pickerel" and "medium pickerel" are trade names.

PIGFISH.—A name applied to the genus *Orthopristis* of the family of grunts, found on the southern coast.

PIKE (*Esox lucius*).—A food fish found in the Great Lakes region; also called "pickerel." It is distinguished from allied species by its color, which is uniform brown, green, or black, with numerous elongate white blotches upon the sides. It averages 4 to 8 pounds in weight. They are caught with hook and line and in gill nets and pound nets. The name "pike" is also applied to the wall-eyed pike or pike perch (*Stizostedion vitreum*) in the upper lakes, and to the Sacramento pike (*Ptychocheilus oregonensis*) in the Columbia and Sacramento Rivers. "Gray pike," "sand pike," "ground pike," etc., are names for the sauger (*Stizostedion canadense*).

PIKE PERCHES (*Stizostedion vitreum* and *S. canadense*).—The "wall-eyed pike" (*S. vitreum*) otherwise known as "glass-eye," "pike perch," "yellow pike," "dory," and "blue pike" on the Great Lakes; as "salmon," "jack," "okow," "blowfish," and "green pike" in other localities. It is found in the large streams and ponds east of the Missouri; it is an excellent food fish and may reach a weight of 20 pounds. The sauger or sand-perch (*S. canadense*) is smaller and less important as a food fish. It is especially abundant in the Great Lakes, but extends to Montana, Tennessee, and Arkansas.

PILOT-FISH (*Naucrates ductor*).—A pelagic fish of no economic importance, and seldom taken on our coast. It is about 12 inches long, and is generally found in the company of ships and sharks.

PINFISH.—*See* Sailor's choice.

PLAICE.—A flat fish found on both coasts of America. The winter flounder (*Pseudopleuronectes americanus*) is a common food fish of New England. Other species are known as "rusty-dab," "eel-back flounder," "craig-fluke," "pole-flounder," "flukes" on the Atlantic coast; as "great starry flounder," "slippery sole," etc., on the Pacific coast. *See* Flounder. The true plaice (*Pleuronectes platessa*) is a European species not found in American waters.

POGY.—A name applied to the menhaden (*Brevoortia*) *tyrannus* north of Cape Cod, to the moonfish (*Chætodipterus faber*) and the scup (*Stenotomus chrysops*) along the southern coast, and to the surf-fish (*Damalichthys argyrosomus*) on the coast of Oregon.

POLLACK (*Pollachius virens*).—A food fish of importance, found mainly off the New England coast. It sometimes occurs as far south as Virginia. The average weight is about 10 pounds. They are caught with seines, nets, and hand lines. For food they are sold fresh, salted, and dried. The sounds are used in the manufacture of glue, the livers are sold in large quantities for the manufacture of oil, and the tongues are cut out and sold fresh.

POMPANO, or PAMPANO (*Trachinotus carolinus*).—An excellent food fish, found on the Atlantic coast from Cape Cod to the Gulf, being very common on the Florida coasts. They average 8 to 10

inches in length and 1 to 2 pounds in weight. Other species found on our eastern coast are the "old-wife," or "gaff-topsail pompano;" the "round pompano," or "Indian River permit;" the "permit" or "great pompano," which is frequently not distinguished from the "common pompano" (*T. carolinus*) by the fishermen. The poppy-fish (*Palometa simillima*) is miscalled the "California pompano." It is a delicate food fish.

PORGEE, or PORGY.—A name given to the surf-fish (*Damalichthys argyrosomus*) in Oregon and Washington; to the moonfish (*Chætodipterus faber*) at Beaufort, N. C.; to the scup (*Stenotomus chrysops*) in New York and along the southern coast; to the sailor's choice (*Lagodon rhomboides*) in the St. Johns River and at Cedar Keys; and to several sparoids of the Gulf.

PORK-FISH (*Anisotremus virginicus*).—*See* Grunt.

PORPOISE (*Phocæna communis*).—A cetacean found on the north Atlantic and north Pacific coasts, ascending rivers. It is known as "harbor porpoise," "herring-hog," "puffer," "snuffer," "snuffing pig," etc. It reaches a length of 4 or 5 feet. They are captured in pounds, seines, and mackerel gill nets. They are not used for food, but an oil is obtained from their jaws which is much used for mechanical purposes. The skin is tanned and made into leather. The name is also applied rather indiscriminately to many dolphins.

PRAWN.—*See* Shrimp.

PUMPKIN-SEED.—A name applied to the sunfish (*Eupomotis gibbosus*) of the brooks of New York and New England, and to the butterfish (*Poronotus triacanthus*) in Connecticut.

QUAHAUG (*Venus mercenaria*).—An edible clam, found very abundantly from Cape Cod to Florida. It is also called "hard clam," "round clam," "bull-nose," "little neck," etc. They are gathered by raking.

QUEEN-FISH (*Seriphus politus*).—A small food fish of excellent quality found on the Pacific coast south of Tomales Bay. It is also called "kingfish." The average weight is about half a pound.

QUILL-BACK.—A sucker (*Ictiobus velifer*) found abundantly in the Mississippi Valley.

QUINNAT (*Oncorhynchus tschawytscha*).—The species of the salmon family mostly used for canning. It is found on the Pacific coast from Monterey northward. It is also called "chinook salmon," "king salmon," "Columbia River salmon," "salmon," etc. The average weight is 16 to 22 pounds.

RACER.—A shad that has spawned and is lean and worthless.

RAY (*Raiæ*).—A general name given to a large group of fishes found on all our coasts. They are also called "skates," "torpedoes," "devil-fishes," etc. They sometimes attain an enormous size, measuring 3 feet across the back and 10 feet in length. They are caught on trawls and in seines, and some are used for food; oil is obtained from the livers of some, and the skin is sometimes manufactured into leather called "shagreen."

RAZOR-SHELL (*Ensis directus*).—A long, slender clam which is a common inhabitant of sand bars and sand flats in New England where the water is pure. It is also called "razor-fish," "razor-clam," "knife-handle," etc. It is sometimes used for food, and its shells are sold for ornaments. The California razor-shell is a different species (*Solen sicarius*).

RED DRUM.—The redfish (*Sciænops ocellatus*). Also known as "channel-bass."

RED-EYE.—*See* Rock bass *and* Warmouth.

REDFIN.—A name applied to the common shiner (*Notropis cornutus*).

REDFISH (*Sciænops ocellatus*).—1. A much-esteemed food fish found on the coast from Cape Cod to the Rio Grande. It is commonly known as the "red drum." In Chesapeake Bay and south to Cape Hatteras it is called the "drum;" in the Carolinas, Florida, and the Gulf, "bass," "spotted bass," "red bass," "sea bass," "reef bass," and "channel bass;" in Florida and the Gulf states, "redfish" and "red horse;" and at various places, "spot." It grows to a length of 5 feet or more and a weight of 75 pounds; average weight, 10 pounds. They are taken with spears, gill nets, and bottom lines.

2. The redfish of California (*Pimelometopon pulcher*) is found from Point Conception to Cerros Island. It is also called "fat-head" and "sheepshead." It reaches a weight of 12 to 15 pounds, but is not a valuable food fish.

3. The blueback salmon (*Oncorhynchus nerka*) is also called "redfish" in the upper Columbia and in Alaska.

4. The redfish (*Sebastodes melanops*). A food fish found from southeastern Alaska to California. It is also known as "red cod," "red rockfish," etc. *See* Rockfish.

RED HORSE.—1. A name applied to several species of suckers found in the waters of the West and South. They are all poor food fishes.

2. The redfish (*Sciænops ocellatus*) of Florida and the Gulf.

RED SNAPPER (*Lutianus aya*).—A valuable food fish found off the Florida coast and in the Gulf of Mexico. It attains a weight of 40 pounds, but averages only about half as much. It is caught with hand lines, and is sold fresh.

ROACH (*Semotilus corporalis*).—The largest chub found east of the Rocky Mountains. It is abundant in the streams of the New England and Middle states east of the Alleghenies. Also called "fall-fish," "chub," "dace," etc. It reaches a length of 18 inches, but is of no special importance as a food fish. A local name for the spot (*Leiostomus xanthurus*) in the Chesapeake region.

ROBIN.—A name applied to the sailor's choice (*Lagodon rhomboides*) about Cape Hatteras.

ROCK.—*See* Striped bass.

ROCK BASS (*Ambloplites rupestris*).—A small food fish everywhere abundant in lakes, ponds, and larger streams throughout the Great Lakes region and the Mississippi Valley. It is called "rock bass" in the Lake region and "goggle-eye" and "red-eye" farther south. It seldom exceeds 1½ pounds in weight. The name is also given to the sea bass (*Centropristes striatus*) at New Bedford, Mass., and to several other serranoid fishes of the Pacific coast.

ROCK COD.—*See* Rockfish.

ROCKFISH (*Scorpænidæ*).—These fish are caught in enormous quantities on the Pacific coast, especially from Santa Barbara to San Francisco. There are a large number of species, known to the fishermen as "priest fish," "rock cod," and "rockfish," with many qualifying prefixes, as "black," "black-banded," "brown," "grass," "green," "orange," "red," "yellow," "yellow-backed," "yellowtail," etc.; also called "garrupa," "grouper," "scorpene," "sculpin," "scorpion," "tree-fish," "flyfish," "corsair," "Spanish flag," "reina," "black bass," "jack," "tomcod," "boccaccio," etc. They average 15 inches in length and 2 or 3 pounds in weight, but some reach a length of 3 feet and a weight of 12 pounds. They are caught in seines and with hook and line. The name is also applied to the striped bass (*Roccus lineatus*) along the Atlantic coast; to the groupers (*Epinephelus*) about Key West and in the Gulf of Mexico; to the log perch (*Percina caprodes*).

ROCK TROUT (*Hexagrammos*).—A group of fishes of considerable importance on the Pacific coast. They are the true greenlings. The different species are known as "sea trout," "starling," "boregata," "bodieron," "red rock trout," etc. The size varies greatly, the average being 18 inches long and 2½ pounds in weight.

RONCADOR (*Roncador stearnsi*).—A food fish of excellent quality, found from Santa Barbara southward; also called "croaker." It reaches a length of over 2 feet and a weight of 6 to 8 pounds. Related species are known as "red roncador," "little roncador," "yellow-finned roncador," etc.

ROSEFISH (*Sebastes marinus*).—A brilliantly colored fish found off the north Atlantic coast as far south as New York. It is also called "red perch," "redfish," "Norway haddock," "snapper," "hemdurgan," "bream," etc. The average length is about 12 inches; average weight, 1½ pounds. It is caught on trawl lines.

ROUND ROBIN (*Decapterus punctatus*).—A food fish found along the coast from the Gulf to Woods Hole. It is also called "cigar-fish" and "scad." It reaches a length of 12 inches.

RUDDER-FISH (*Kyphosus sectatrix*).—A small fish abundant about Key West. The banded rudder-fish (*Seriola zonata*) is found from Cape Cod to Florida.

RUNNER (*Elagatis bipinnulatus*).—A food fish abundant on the western and southern coasts of Florida. It is also called "skipjack," "yellowtail," and "shoemaker." It reaches a length of 2½ feet.

SACRAMENTO PERCH (*Archoplites interruptus*).—A sunfish of the Sacramento and an excellent food fish.

SACRAMENTO PIKE (*Ptycochelius oregonensis* and *P. grandis*).—A chub of the Sacramento and Columbia. It is also known as "bigmouth," "box-head," "yellow-belly," "chappaul," and "squawfish." It reaches a length of 5 feet or more.

SAIBLING (*Salvelinus aureolus*).—The Sunapee trout of Maine and New Hampshire.

SAILOR'S CHOICE (*Lagodon rhomboides*).—A food fish found on the Atlantic coast south of Cape Hatteras and in the Gulf. It is also called "robin," "pinfish," "salt-water bream," "squirrel-fish," "porgy," "scup," "yellowtail," "shiner," "chopa spina," etc. It averages about 10 inches in length and 6 ounces in weight, and is caught with hook and line and in cast nets and seines The name is also applied to the pigfish (*Orthopristis chrysopterus*) in South Carolina.

SALMON (*Salmo salar*).—This is the salmon of the Atlantic coast. It is found along the coast of the New England states. At different ages the fish are known as "parrs," "smolts," "grilse," "kelts," and "salmon." The adults weigh from 15 to 40 pounds. They are caught with nets, seines, and hand lines, and by spearing. The landlocked salmon, or fresh-water salmon, or Sebago salmon (*S. sebago*), is found in fresh waters, generally landlocked.

The blueback salmon (*Oncorhynchus nerka*) is found on the Pacific coast from the Columbia River northward. The California salmon, or chinook salmon, or quinnat (*O. tschawytscha*), is found from Monterey to Alaska. The dog salmon (*O. keta*) ranges from the Sacramento River to Bering Strait. The humpbacked salmon, or lost salmon (*O. gorbuscha*), ranges from the Sacramento River to Alaska. The silver salmon, or white salmon (*O. kisutch*), is found in all rivers from the Sacramento River to Bering Strait.

The California yellowtail (*Seriola dorsalis*) is also known as the "white salmon" on the Pacific coast, as is also the chub (*Ptychochcilus lucius*) of the Colorado River. The name "kelp salmon" is applied to the cabrilla (*Paralabrax clathratus*) at Monterey; "lake salmon," to the lake trout (*Cristivomer namaycush*) in the lakes of northern New York; and "salmon" and "jack salmon," to the "wall-eyed pike" (*Stizostedion vitreum*) in the streams of the South. *See* Trout.

SARDINE.—The California sardine (*Sardinia cærulea*). The name is erroneously applied to various other small fishes of the herring family, and is also given to canned herring prepared after the manner of the French sardines.

SAUGER (*Stizostedion canadense*).—This fish is found in the Great Lakes region, and in the upper Mississippi, upper Missouri, and Ohio Rivers. It is known locally as the "gray pike," "sand pike," "ground pike," "pickering," "pickerel," "horsefish," etc. It is a small fish, not exceeding 18 inches in length. *See* Pike perches.

SCALLOP (*Pecten irradians*).—An edible bivalve found off the coasts of Long Island, Rhode Island, and southern Massachusetts in paying quantities; less numerous South. It is obtained by dredging and raking. The powerful central muscle by which the animal opens and closes its shell forms the edible portion. The shells are of commercial value. The rims or refuse are used for fertilizers.

SCULPIN (*Cottidæ*).—Several species of sculpin are found on the Atlantic and Pacific coasts and in inland waters, but none are of particular value as food fish. Those on the Atlantic are called "grubby," "puffing-grubby," "daddy sculpin," "bull-head," "sea-robin," "sea toad," "pigfish," "sea-raven," etc.; those on the Pacific, "drummer," "salpa," "johnny," "biggy-head," "cabezon," etc.; and those in the lakes and streams of the Northern states, "bull-heads," "miller's thumb," "goblins," "blobs," "muffle-jaws," etc. Most of the species are of small size.

SCUP (*Stenotomus chrysops*).—This fish is found along the Atlantic coast from Cape Cod to South Carolina; abundant North. Common local names are "scuppaug," "paugy," "porgy," "pogy," "fair maid," etc. They are caught in pounds and traps and with hook and line.

SEA BASS (*Centropristes striatus*).—A food fish found from Vineyard Sound to the eastern part of the Gulf of Mexico. It is known south of Cape Hatteras as the "blackfish;" in the Middle states as "black Will," "black Harry," and "hannahills;" about New Bedford and Newport as "bluefish;" and at New Bedford also as "rock bass." The average length in New England is about 15 inches; average weight, 1½ pounds. In the South they are much smaller, averaging about three-fourths of a pound in weight. They are caught with hand lines and in pounds and traps. The white sea-bass (*Cynoscion nobilis*) is found on the Pacific coast from Cape Mendocino to San Diego. It is an important food fish, and averages 15 pounds in weight. The redfish (*Sciænops ocellata*) is called "sea bass" in the Carolinas, Florida, and the Gulf.

SEA-ELEPHANT (*Mirounga angustirostris*).—A marine mammal, 12 to 14 feet long, found on the Pacific coast. The oil is of commercial value, and the tongues are sometimes salted and used for food.

SEA HERRING.—The common herring (*Clupea harengus*) of the north Atlantic.

SEA-HORSE (*Hippocampus hudsonius* and *H. ingens*).—A curious fish found on the eastern coast south of Cape Cod and on the Pacific coast. Few specimens are taken, and they are sold for curiosities.

SEAL (*Pinnipedia*).—The seal tribe embraces the walrus, eared seals, and earless seals. They are found in the northern part of the Atlantic and Pacific Oceans and in the Arctic Ocean. They are captured for their oil, skins, and flesh. The fur-seal fishery is the most important. *See* Fur seal.

SEA-LION (*Eumetopias jubata*).—A seal found on the Pacific coast from the Farallone Islands to the Pribilof Islands. The males are about 15 feet long, and weigh about 1,000 pounds; the females are about half as large as the males. They are killed with guns and lances, and are used by the natives for food, oil, leather, etc. The California sea-lion (*Zalophus californianus*) is found on the California coast from San Diego to San Francisco.

SEA ROBIN (*Prionotus carolinus*).—This fish is found along the eastern coast south of Cape Cod. They are also called "gurnards," "wing-fish," "sea bat," etc. They attain a length of 15 to 18 inches and a weight of about a pound. The name is also applied to the toadfish (*Opsanus tau*) in the Gulf.

SEA SHAD.—Small immature shad that feed about bays and the mouths of rivers during the summer after the ascent of the main body of breeders.

SEA SNAILS (*Gasteropoda*).—An asymmetrical mollusk bearing a single shell. They are found on all our coasts, and are known as "periwinkles," "whelks," "wilks," "winkles," "wrinkles," "conchs," "drills," "borers," "helmet-shells," "abalones," "ormer-shells," "sea-ears," "limpets," "wood-lice," "lobster tails," "sea-bugs," etc. They are not extensively used for food in this country, but are used for bait in numerous fisheries.

SEA TROUT.—A name given to the white sea-bass (*Cynoscion nobilis*) on the Pacific coast; to the white trout (*Cynoscion nothus*) along the southern coast; to the spotted rock trout or greenling (*Hexagrammos decagrammus*) south of San Francisco; and to the squeteague (*Cynoscion regalis*) on the Atlantic coast. It is also a trade name for sea herring.

SEEKONKS.—Oysters (mainly seed) growing in the Seekonk River, Rhode Island.

SERGEANT-FISH.—*See* Cobia.

SHAD (*Alosa sapidissima*).—A very important food fish found on all the coasts and in some inland waters; the great fisheries are in the rivers of the Atlantic slope. It is called "white shad," in distinction from other "shad." The average weight is about 4 pounds; average length about 2 feet. It is caught in nets, seines, and weirs, and is sold fresh, cured, and pickled.

The names "mud shad," "gizzard shad," "winter shad," "stink shad," "hickory shad," and "white-eyed shad" apply to a different

species (*Dorosoma cepedianum*). The menhaden is called "hard-head shad" about Cape Ann, "bug shad" in Virginia, and "yellow-tail shad" from North Carolina to Florida.

SHARKS (*Notidani*).—Numerous species of sharks are found on the Atlantic and the Pacific coasts. They are sometimes called "dog-fish," "angel-fish," "porbeagle," "swingle-tail," "bonnet-head," "hammer-head," etc. They are captured with hook and line and with harpoons; sometimes they are taken in nets set for other fish. Sharks are valuable for their livers, from which oil is extracted; their bodies are used mainly for fertilizing purposes.

SHEEPSHEAD (*Archosargus probatocephalus*).—A choice food fish caught off the eastern coast of the United States from Cape Cod to Texas. The weight varies from 2 to 12 pounds, according to locality; the average size is about 4 pounds. They are caught with hand lines, seines, and nets, and by spearing. The name is also applied to the butter-fish (*Poronotus triacanthus*) about Cape Cod, to the fresh-water drum (*Aplodinotus grunniens*) in the Great Lakes, and to the redfish (*Pimelometopon pulcher*) south of Point Conception, California.

SHEEPSWOOL.—The highest grade of Florida commercial sponges.

SHINER.—A common name applied to the redfin (*Notropis cornutus*) from New England to Kansas and Alabama; to the menhaden (*Brevoortia tyrannus*) in southern Florida; to some of the surf-fishes (*Embiotocidæ*) on the Pacific coast; and to the sailor's choice (*Lagodon rhomboides*) about Cedar Keys. The blunt-nosed shiner (*Selene vomer*) is so called about New York and Narragansett Bay. The golden shiner (*Abramis chrysoleucus*) is found in the rivers east of the Great Plains.

SHRIMP.—A decapod crustacean found in large numbers on all our coasts and in many inland waters. The usual length is about 2 inches, but some attain a larger size. They are caught in dip nets, purse nets, etc., and are used for food and bait. Prawns are generally larger than shrimps, often attaining a length of 7 inches.

SILVERFISH.—*See* Tarpon.

SILVER HAKE (*Merluccius bilinearis*).—This fish is found on the Atlantic coast north of Virginia. It is also called "New England whiting." The average length is 1 foot. It is caught in weirs, nets, and with hand lines, and is used for food and bait.

SILVERSIDES (*Atherinidæ*).—A small food fish, found along the Atlantic and Pacific coasts. Different species are known as "sand smelt," "green smelt," "anchovy," "merit-fish," "sardine," "California smelt," "little smelt," "brit," etc. They range from 7 to 18 inches in length and are caught in seines.

SIRENIANS.—Large marine mammals, more or less fishlike in form, such as manatees, sea-cows, etc.; found in warm seas.

SISCOWET.—*See* Lake trout.

SKATE.—*See* Ray.

SKILFISH (*Anoplopoma fimbria*).—A common food fish from Unalaska to Monterey. It is also known as "beshow," "coalfish," and "black cod."

SKIPJACK.—A local name applied to the skipper (*Scombresox saurus*) along the Atlantic and Gulf coasts; to the inland alewife (*Pomolobus chrysochloris*) in the Mississippi Valley from the Great Lakes to the Gulf; to the bluefish (*Pomatomus saltatrix*) south of Cape Hatteras; to the bonito (*Sarda chilensis*) on the Pacific coast; to the runner (*Elagatis bipinnulatus*) about Key West; to the butter-fish (*Poronotus triacanthus*) about Cape Cod; to the cutlass-fish (*Trichiurus lepturus*); to the jurel (*Caranx chrysos*) along the east Florida coast; and to the leather jacket (*Oligoplites saurus*) on the Atlantic coast.

SKIP MACKEREL.—A name applied to the bluefish about New York.

SMELT (*Osmerus mordax*).—A very choice food fish found on the Atlantic coast from Virginia to the St. Lawrence and landlocked in many New England lakes. Also called "American smelt" and "frostfish." When sent to market unfrozen they are known as "green" smelts. The average length is 8 to 10 inches. The Pacific smelt (*O. thaleichthys*) is found from San Francisco to Alaska. The surf smelt (*Mesopus pretiosus*) is found from Monterey to Alaska.

The eulachon or candlefish (*Thaleichthys pacificus*) is an excellent food fish found from the Columbia River to Skagway, where it is called "smelt." Some of the silversides (*Atherinidæ*) are wrongly called "smelts;" this is especially true of *Atherinopsis californiensis*, which is widely known as "smelt," "blue smelt," and "California smelt."

SMOLT.—A name applied to an immature salmon when it has become a uniform bright silvery color.

SNAPPERS (*Lutianidæ*).—The red snapper (*Lutianus aya*) is the most important of these fishes. It is a large fish, bright red in color, and is found from Long Island southward, but is most abundant on the coasts of Georgia, Florida, and the Gulf states. The gray snapper or mangrove snapper (*L. griseus*), also known in Florida as "lawyer," is a most common species. The mutton snapper (*L. analis*), the dog snapper, or jocu (*L. jocu*), the schoolmaster, or caji (*L. apodus*), the silk snapper (*L. vivanus*), the lane snapper (*L. synagris*), are all fishes of food value common in the West Indies and southern Florida.

The red grouper (*Ephinephelus morio*) is called "brown snapper" and "red-bellied snapper" in Florida; the rosefish (*Sebastes marinus*) is called "snapper" on the North Atlantic coast; the bluefish (*Pomatomus saltatrix*) is called "snapper" and "blue snapper" on the New England coast; and the cod that live near the shore away from the ledges are called "black snappers."

SOLE (*Soleidæ*).—The American sole, or hog-choker (*Achirus fasciatus*) is common from Boston to Galveston. *See* Flounder.

SPADEFISH.—*See* Moonfish.

SPANISH MACKEREL (*Scomberomorus maculatus*).—A very choice food fish found on the Atlantic coast south of Cape Cod and in the eastern part of the Gulf of Mexico. The average length is about 20 inches; average weight about 3 pounds. In California the Monterey Spanish mackerel (*S. concolor*) is a most excellent food fish. They are caught on troll lines and in gill nets and pound nets.

The cavalla (*S. cavalla*) is a West Indian species, but often taken in small numbers on the southern New England coast. It is also known as "kingfish." The name "cero" is often applied to the Spanish mackerel.

SPECKLED TROUT (*Salvelinus fontinalis*).—An excellent food fish found in cold lakes and streams of the Atlantic watershed, in the headwaters of the Mississippi, and in the Great Lakes region. It is the American "brook trout." The varieties differ much in size and appearance in different regions. It is our gamiest fish, and is generally caught with hook and line.

The rainbow trout (*Salmo irideus*) of California and the Dolly Varden trout (*Salvelinus malma*) of the mountains are sometimes known as "speckled trout."

SPERM WHALE (*Physeter macrocephalus*).—One of the most valuable of the whales; found in both the Atlantic and Pacific Oceans. It is also called "cachelot." The males reach a length of 70 feet, the females much less. They are captured for their oil and spermaceti. An intestinal substance called "ambergris" is also very valuable.

SPONGE.—The sponge of commerce is found off the Florida coast. The grades generally rank sheepswool, yellow, velvet, grass, and glove; but different men in the business grade them differently.

SPOT (*Leiostomus xanthurus*).—A food fish found along the coast from Cape Cod to Texas. It is called "goody" in New Jersey, "roach" in the Chesapeake, "chub" at Charleston, S. C., "masooka" on the St. Johns, "chopa blanca" at Pensacola, "Lafayette", etc. It is about 6 inches long, and is taken with hook and line and in gill nets.

SPRAT.—1. A local New England name for the young alewife. 2. *See* Alfione.

SQUETEAGUE (*Cynoscion regalis*).—An excellent food fish found in abundance along the Atlantic coast from Cape Cod to Florida. It is known as "drummer" about Cape Cod; "yellowfin" about Buzzards Bay; "weakfish" in New York and New Jersey; "bluefish" in Delaware and Virginia; "gray trout," "sun trout," "shad trout," "sea trout," and "salt-water trout" in the Middle and South Atlantic states; and "squeteague," "squit," "chickwit," etc., in various places. It averages about 2½ pounds in weight, though some individuals attain a weight of 30 pounds. They are caught in seines and gill nets and with hook and line. The sounds are of commercial value. The spotted squeteague (*Cynoscion nebulosus*) is found from New Jersey to Texas, and is somewhat larger than the preceding. The California "bluefish" is *Cynoscion parvipinnis*. The great "white sea-bass" of California is *Cynoscion nobilis*.

SQUID.—*See* Cuttle-fish.

STARFISH.—A star-shaped animal consisting of a central disk from which radiate five arms or "fingers;" found all along the coast and known as "five-finger," "sea-star," "star," etc. It is of importance only on account of the great damage it does to oyster beds.

STRAWBERRY BASS.—*See* Calico bass.

STRIPED BASS (*Roccus lineatus*).—One of the choicest food fishes found along the Atlantic and Gulf coasts; it often ascends rivers for several miles. In the North it is generally called the "striped bass;" in the South "rockfish" and "rock." Large specimens are called "green-head" and "squid-hound" by New Englanders. The average length is about 3 feet; average weight about 20 pounds. They are caught in weirs, traps, gill nets, and seines, and with hook and line. The name is sometimes applied to the white bass (*Roccus chrysops*) of the Great Lakes region.

STURGEON (*Acipenseridæ*).—A food fish found on the Atlantic and Pacific coasts and in many inland waters. The various species are known as "lake sturgeon," "white sturgeon," "shovelnose," etc. The Atlantic sturgeon attains a length of 5 to 12 feet and a weight of 400 to 500 pounds. They are caught in drift nets, pound nets, weirs, and seines, and by spearing and "gaffing." They are sold fresh, pickled, and smoked, for food; "caviar" is manufactured from their eggs; the skin is made into leather; the sounds are used in the manufacture of glue and isinglass; a valuable oil is sometimes obtained from the parts not used for food; and the refuse is used for fertilizing purposes.

SUCKER (*Catostomidæ*).—A food fish, of which some 58 species are found in most of the fresh waters of the United States. The different species are known as "May sucker," "mud sucker," "chub sucker," etc., "rabbit-mouth," "harelip," "split-mouth," "red horse," "mullet," "creek-fish," "black horse," "buffalo-fish," "moogadee," etc. They vary in size, all attaining a length of at least a foot. They are caught with hook and line, spears, nets, snares, etc.

SUK-KEGH.—*See* Blueback.

SULPHUR-BOTTOM WHALE (*Sibbaldius sul fureus*).—The largest known cetacean, reaching a length of 100 feet. It is found in the Pacific Ocean, and is captured only by the use of the bomb lance. It is valuable for its oil and baleen.

SUNFISH (*Eupomotis gibbosus*).—A food fish found in the Great Lakes region, the upper Mississippi Valley, and the coastwise streams from Maine to Georgia. It is also known as "sunny," "pumpkin-seed," "bream," etc. It averages about a pound in weight and is caught with hook and line. Related species are known as "sunfish," "long-eared sunfish," "blue sunfish," etc.

The ocean sunfish (*Mola mola*) is found off the entire coast of the United States; also called "headfish." It reaches a weight of 500 pounds, and yields a large quantity of valuable oil.

SURF-FISH (*Embiotocidæ*).—A food fish found in large numbers along the Pacific coast. The general name "perch" is applied to them everywhere along the coast; they are also called "pogy" and "porgy" on the Oregon coast, "surf-fish" south of Monterey, and "minny," "sparada," "moharra," etc., along their northern range. The largest attain a weight of 4 pounds; the average is about 1 pound. *See* Alfione.

SURGEON-FISH (*Teuthis hepatus*).—This is the Tang common from Carolina to Florida. It is a good food fish. Also known as "lancet-fish," "doctor-fish," etc.

SWELL-FISH (*Tetraodontidæ*).—The different species are known as "globe-fishes," "puffers," "swell-toad," etc. They are common on the Atlantic coast.

SWORDFISH (*Xiphias gladius*).—One of the best food fishes found the entire length of the Atlantic coast, and rarely off the California coast. The average weight is from 300 to 400 pounds. It is captured with harpoons, and is sold fresh, pickled, and salted. The swords are sold as curiosities.

TAILOR.—The "salt-water tailor" is the bluefish (*Pomatomus saltatrix*) of North Carolina, Virginia, and Maryland. The "fresh-water tailor" is the mattowacca (*Clupea mediocris*) of the Potomac.

TARPON (*Tarpon atlanticus*).—An immense herring-like fish found in the western Atlantic and Gulf of Mexico. It is also called "jew-fish" in Georgia and Florida; "grand écaille," or "grandy-kye," and "savanilla" in Texas; and "silver-fish" at Pensacola. It attains a length of 6 feet and a weight of 75 pounds, and is caught on hooks and in seines. It is seldom used for food, but the scales, which are from 1 to 3 inches in diameter, are sold for ornaments.

TAUTOG (*Tautoga onitis*).—A food fish found along the east coast from Maine to South Carolina. On the New York coast it is called "blackfish;" in New Jersey, "blackfish," "tautog," and "chub;" on the Virginia coast, "Moll" and "Will George;" at the mouth of the Chesapeake, "salt-water chub;" and in North Carolina, "oyster-fish." The average weight is about 2 pounds; average length, about 15 inches. It is caught on hooks, and in pounds, weirs, and nets.

TEN-POUNDER (*Elops saurus*).—A game fish found in America north to the Carolinas and Gulf of California. Also known as "big-eyed herring," "bony-fish," "piojo," "John Mariggle," etc.

TERRAPIN.—The salt-water terrapin (*Malaclemmys palustris*) is very highly prized for food. It is found in salt marshes along the coast from Massachusetts to Texas, but those which enter into commerce are principally from Chesapeake Bay and the Carolina coast. They are also called "salt-marsh turtle" and "diamond-back." The average weight is 4 or 5 pounds. They are taken in dredges, seines, and nets.

The fresh-water terrapins are generally distributed south of the forty-first parallel of latitude. The most common used for food are the "red-bellied terrapin" (*Pseudemys rugosa*), the "mobilianer" (*P. mobiliensis*), and the "yellow-bellied terrapin" (*P. scabra*).

THIMBLE-EYE.—*See* Chub mackerel.

TILEFISH (*Latilidæ*).—A food fish found along the Atlantic and Gulf coasts, and on the Pacific coast south of Monterey. The California species (*Caulolatilus princeps*) is also known as the "white-fish" and "blanquillo." The Atlantic species (*Lopholatilus chamæleonticeps*) is abundant at the edge of the Gulf stream southward from Nantucket. All are caught with hook and line.

TINKER MACKEREL.—*See* Chub mackerel.

TOGUE.—*See* Lake trout.

TOMCOD.—The Atlantic tomcod (*Microgadus tomcod*) ranges from New York to Newfoundland, often ascending rivers. It is also known as the "frostfish." The Pacific tomcod (*M. proximus*) is found from Monterey northward. Each species reaches a length of about 1 foot and a weight of about one-half pound. They are taken in great numbers in seines and sweep nets, and with hook and line. The name is also applied to the kingfish (*Menticirrhus saxatilis*) on the Connecticut coast, and to the bocaccio (*Sebastodes paucispinis*) on the California coast.

TORTOISE.—*See* Turtle.

TRIPLE-TAIL (*Lobotes surinamensis*).—A food fish, found on the Atlantic coast as far north as Cape Cod, abundant South. It is known in South Carolina as "black perch," and on the St. Johns River as "grouper." It attains a length of from 2 to 3 feet, and is caught with hook and line. The scales are sold at a high price for ornaments.

TROUT.—A common name given to the divisions of the salmon family formed by the genus *Salmo* of western America, the genus *Salvelinus* or charrs, and the genus *Cristivomer* or Great Lakes trout. *Salmo* is represented by three series—the cutthroat trout (*S. clarkii*), the rainbow trout (*S. irideus*), and steelhead trout (*S. rivularis*). *Salvelinus* is represented in America by some seven species, and *Cristivomer* by two. *See* Lake trout, Speckled trout, Rock trout, Squeteague, Black bass, *and* Salmon.

TRUNKFISH (*Ostraciidæ*).—Different species are known as "cuckold," "cowfish," "horned trunkfish," "spotted trunkfish," etc. They are a tropical fish found in small numbers on the Florida coast.

TUNNY.—*See* Horse-mackerel.

TURBOT.—*See* Flounder. The true turbot (*Bothinæ*) is not found on the American coast.

TURTLES.—*See* Green turtle, Hawks-bill turtle, Loggerhead, *and* Terrapin.

UNICORN.—*See* Narwhal.

WALL-EYED PIKE.—*See* Pike perch.

WALRUS (*Odontobænus rosmarus* and *O. obesus*).—A marine mammal, found in the north Atlantic and Pacific Oceans. It attains a length of 16 feet and a weight of 2,000 pounds; averages about one-fourth less. They are captured by means of the rifle, harpoon, and lance, and are valuable for their oil, tusks, hide, and flesh.

WARMOUTH (*Chænobryttus gulosus*).—A small food fish, found abundantly in sluggish waters from Virginia to Texas, sometimes as far north as Lake Michigan. It is also called "perch," "sunfish," "goggle-eye," "red-eye," etc. The average weight is about 1 pound.

WHITE BASS (*Roccus chrysops*).—A food fish, found abundantly in the Great Lakes region and in the Ohio and upper Mississippi, chiefly in deep and still waters. It is also called "striped bass." Its usual weight is from 1 to 3 pounds. It is caught on hooks, and ranks high as a food fish.

WHITEFISH (*Coregonus*).—They form one of the most important groups of fresh-water fishes of America. The common whitefish (*Coregonus clupeaformis*) is the most valued of the tribe, although the others are highly esteemed as a food. It is found in the Great Lakes region and is known as "humpback," "bowback," and "highback" whitefish; also as "Otsego bass" in the neighborhood of Otsego Lake, N. Y. It is caught chiefly in gill nets, and averages less than 4 pounds in weight. Other economic species are the Rocky Mountain whitefish (*C. williamsoni*); the Menominee whitefish (*C. quadrilateralis*) also locally known as "round whitefish," "frostfish," "shadwater," "pilot fish," "chivey," "blackback," etc. The whitefishes belong to the salmon family. The name is also applied to the bluefish (*Pomatomus saltatrix*) on the Hudson; to the menhaden (*Brevoortia tyrannus*) in western Connecticut; to the tilefish (*Caulolatilus princeps*) in California; and to the beluga (*Delphinapterus leucas*) by whalers.

WHITE PERCH (*Morone americana*).—This bass is an important food fish, found very abundantly along the Atlantic coast from South Carolina to Nova Scotia; it also occurs in brackish waters in the mouths of rivers, and is sometimes landlocked in fresh-water ponds. It is the common "perch" of the fisheries of the Middle Atlantic states. The average length is 8 to 9 inches. It is caught with seines, nets, hook and line, etc., and is used very extensively for food. The name is also applied to the fresh-water drum (*Aplodinotus grunniens*) in the Ohio River, and to the porgee (*Damalichthys argyrosomus*) on the California coast.

WHITING (*Menticirrhus saxatilis*).—This fish is otherwise known as the "kingfish" and "sea-mink"; it is abundant from Cape Ann to Pensacola. The sand-whiting (*M. americanus*), also known as "deep-water whiting," is abundant from Chesapeake Bay to Texas. The surf-whiting (*M. littoralis*), also called the "silver-whiting," is common from the Carolinas to Texas. The California whiting (*M. undulatus*) is also known as the "sand-sucker." On the coast of Florida they are variously known as "kingfish," "barb," "bullhead whiting," and "ground mullet." They attain a length of 10 inches and a weight of 1½ pounds. They are caught with hook and line and in seines, and are a food fish of considerable importance. The name is also applied to the harvest-fish (*Peprilus paru*) at Norfolk, Va., and to the silver hake (*Merluccius bilinearis*) on the New England coast.

WOLF-FISH (*Anarhichas lupus*).—A large fish found off the New England coast north of Nantucket Shoals. It is also called "catfish." The average length is about 4 feet; average weight about 25 pounds. It is caught on hooks and in seines, and is sold fresh, salted, and dried and smoked.

YELLOWTAIL (*Bairdiella chrysura*).—An excellent food fish found on the Atlantic coast from Cape Cod to Texas; it is especially abundant South. It is called "silver perch" on the coast of New Jersey, and "mademoiselle" at Pensacola. It averages 8 inches in length. The name is also applied to the menhaden (*Brevoortia tyrannus*) from North Carolina to Florida; to the runner (*Elagatis bipinnulatus*) at Pensacola; to the sailor's choice (*Lagodon rhomboides*) in the Indian River region; to the amber-fish (*Seriola dorsalis*) on the California coast south of Santa Barbara; and to the green rockfish (*Sebastichthys flavidus*) at Monterey.

INDEX.

Abalone, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
Africa, value of exports of domestic fishery products to, 291; of imports, 293.
Alabama, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 79–82.
Alaska, salmon product of canneries and packing houses, 283; rank in value, 283; cod packed, 284, 285.
Albacore, or horse mackerel, origin of name, 9; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
Alewives, origin of name, 9; rank in value, 24; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34; detailed statistics regarding, 47. *See also* Alewives and roe.
Alewives and roe, canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.
Alligator hides. *See* Hides.
Amber-fish, or jack-fish, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
Anchovies, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34. *See also* Anchovies and sardines.
Anchovies and sardines, imports, by country from which imported, 292. *See also* Sardines.
Angel-fish. *See* Moonfish, angel-fish, or spadefish.
Apparatus of capture, variety of, 8, 21, 22; value, by geographic divisions, 11, 22; by Atlantic coast state groups, 11; in states on Chesapeake Bay, 12; on Great Lakes, 12; by commercial fisheries, 19; by states, 21, 79–279; detailed statistics, 22; products by, 29, 30, 44, 46. *See also* Apparatus of capture and outfit.
Apparatus of capture and outfit, comparison with former censuses, 10. *See also* Outfit.
Argentina, value of exports of domestic fishery products to, 291.
Arkansas, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 82–84.
Asia, value of exports of domestic fishery products to, 291; of imports, 293.
Asiatic Russia, imports of fishery products, 293.
Atlantic coast district, exclusive of Long Island Sound, fishery products of, 205.
Atlantic coast division, summary of statistics, 11; by Atlantic coast state groups, 11; persons employed, salaries, and wages, by main branches of industry, 14, 16; per cent of persons engaged in fishing, 15; capital invested in vessels and boats, 20, 22, 23; average tonnage of vessels, 21, 23; number, 23; products, by species, 26; by class of fisheries and apparatus of capture, 29; canning and preserving, fish and oysters, summary, by geographic divisions, 281; value of products, 281, 287; of by-products, 282; cod packed, 284, 285; oysters canned, 285.
Atlantic Ocean district, fishery products of, 108, 151, 258, 259, 262.

Barracuda, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34; pickled, 287.
Bass, black, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
—— crappie and strawberry, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 35.
—— rock, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
—— sea, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39.
—— striped, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
—— white, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Beam trawls, number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by states, 45.
Belgium, imports of fishery products, 292, 293.
Black bass. *See* Bass.
Black cod. *See* Cod.
Bluefish, rank in value, 24; quantity and value, by geographic divisions, 28; by apparatus of capture, 30; by states, 34; detailed statistics regarding, 48.
Boat fisheries. *See* Shore and boat fisheries.
Boats, comparison with former censuses, 10; use of term, 20; value, by geographic divisions, 20, 22, 23; number and tonnage, 23; detailed statistics, by states, 79–279.
—— row, value, by geographic divisions, 22, 23; number and tonnage, 23.
—— sail, value, by geographic divisions, 22, 23; number and tonnage, 23.
—— steam and motor, value, by geographic divisions, 22, 23; number and tonnage, 23. *See also* Vessels and boats, including outfit.
Bonito, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
Bowfins. *See* Dogfish, or bowfins.
Brazil, value of exports of domestic fishery products to, 291.
Bream and sunfish, use of term, 9; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
British India, imports of fishery products, 292.
British South Africa, imports of fishery products, 292.
British West Indies, imports of fishery products, 293.
Brook trout. *See* Trout.
Buffalo fish, rank in value, 24; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 35; detailed statistics regarding, 48.
Bureau of Fisheries, cooperation in canvass, 7, 8.
Butterfish, use of term, 10; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 35.

California, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 84–91; canning and preserving, fish and oysters, value of by-products, 282; salmon product of canneries and packing houses, 283; rank in value, 283; sardines packed, 284; cod packed, 284, 285.
Canada, imports of fishery products, 292, 293. *See also* Canada, Newfoundland, and Labrador.
Canada, Newfoundland, and Labrador, value of exports of domestic fishery products to, 291.
Canning and preserving, fish and oysters, classification of establishments engaged in, 9; comparison with former censuses, 280; statistics, by geographic divisions, 280; products, by kind, 281; by species, 281, 287; by-products, 282; food products, 286.
Capital, amount, by geographic divisions, 11, 22; by Atlantic coast state groups, 11; in states on Chesapeake Bay, 12; on Great Lakes, 12; leading items of, 19; states reporting more than $2,000,000, 19. *See also* Capital, not including shore and accessory property and cash *and* Equipment and other capital.
Capital, not including shore and accessory property and cash, comparison with former censuses, 10.
Carp, German, rank in value, 24; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 35; detailed statistics regarding, 49.
Cash, use of term, 19; amount invested in commercial fisheries, 19. *See also* Shore and accessory property and cash.
Catfish, origin of name, 9; rank in value, 24; quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 35; detailed statistics regarding, 51.
Caviar, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41; exports of, 291. *See also* Sturgeons and caviar.
Central America, value of exports of domestic fishery products to, 291.
Central division. *See* Eastern and central divisions.
Chesapeake Bay, persons employed, 12, 16; capital, and value of products, 12.
Chesapeake Bay district, fishery products of, 150, 257, 259, 261.
Chile, value of exports of domestic fishery products to, 291.
Chinese Empire, imports of fishery products, 292, 293.
Clams, rank in value, 24; comparison with previous census, 26; detailed statistics regarding, 52; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.

Clams, hard, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
—— razor, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
—— soft, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
—— surf, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
Cobia, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 35.
Cockles, winkles, and conchs, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
Cod, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 35; detailed statistics regarding, 52; canned and preserved, value, by geographic divisions, 281, 287; by states, 284, 285; by method of treatment, 286, 287; quantity, 281, 284, 285, 287.
—— black, quantity and value, by geographic divisions, 26; by apparatus of capture, 30; by states, 34.
—— cultus, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36. *See also* Cod, haddock, hake, and pollack.
Cod, haddock, hake, and pollack, exports of, 291; imports, by country from which imported, 292.
Colorado, persons employed, not including shoresmen, 18.
Columbia River district, fishery products of, 224, 268.
Conchs. *See* Cockles, winkles, and conchs.
Connecticut, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; quantity and value of products, 25, 34; detailed statistics, 91–96.
Crabs, length of season, 17; rank in value, 24; comparison with previous census, 26; detailed statistics regarding, 54; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.
—— hard, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
—— king, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
—— soft, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
—— spider, quantity and value, by geographic divisions, 28; by apparatus of capture, 32.
—— stone, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
Crappie and strawberry bass. *See* Bass.
Crawfish, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
Crevallé, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 35.
Croaker, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 35.
Crustaceans, quantity and value, 24; comparison with previous census, 26.
Cuba, value of exports of domestic fishery products to, 291; of imports, 293.
Cultus cod. *See* Cod.
Cumberland and Tennessee Rivers, fishery products of, 245.
Cunner, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.
Cusk, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36; canned and preserved, value, by method of treatment, 286, 287; by geographic divisions, 287; quantity, 287.

Delaware, summary of fisheries, 12, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 96–99.
Delaware River and Bay district, fishery products of, 230.
Detroit River. *See* Lake St. Clair and St. Clair and Detroit Rivers.
District of Columbia, persons employed, not including shoresmen, 18.
Dogfish, or bowfins, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.
Dredges, tongs, rakes, etc., value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 31; by states, 45.
Drum, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.

Eastern and central divisions, salmon product of canneries and packing houses, 283.
Eelpout. *See* Ling, or eelpout.
Eels, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.
Employees. *See* Persons employed *and* Salaried employees.
Equipment and other capital, amount, by geographic divisions, 22; by states, 79–279. *See also* Capital.
Europe, value of exports of domestic fishery products to, 291; of imports, 293.
European Russia, imports of fishery products, 292.
Exports, comparison with imports, 288; value of, 288, 289, 291; by country to which exported, 291.

Fertilizer, value, by geographic divisions, 281, 282; by states, 282. *See also* Fertilizer, oil, and glue.
Fertilizer, oil, and glue, quantity and value, by geographic divisions, 287.
Firm members, use of term, 14.
Fish, confusion in common names of, 9; distribution, 24; comparison with previous census, 26; quantity and value, by species, 26, 30; by geographic divisions, 26; by apparatus of capture, 30; by states, 34, 79–279; canned and preserved, value, by geographic divisions, 281, 287; by kind, 281, 287; by method of treatment, 286, 287; quantity, 287; exports of, 291; imports, by kind and country from which imported, 292.
Fish oil. *See* Oil.
Fisheries, general, difficulty attending census of, 7; comparison with former censuses, 10; summary, 13; products, by apparatus of capture and geographic divisions, 29; by states, 79–279; detailed statistics, 47–78.
Fishermen, exclusive of shoresmen, comparison with former censuses, 10; prevailing nationality, 17; detailed statistics, by states, 79–279.
Fishery products, quantity and value, 24; detailed statistics, by states, 79–279; values of imports and exports, 288; exports, by kind, 291; by country to which exported, 291; imports, by kind, 292; by country from which imported, 292, 293. *See also* Products.
Fishing vessels. *See* Vessels.
Florida, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 100–110; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285; shrimp and prawn preserved, 286.
Flounders, use of term, 9; rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36; detailed statistics regarding, 56.
Food fish, quantity and value, 24; comparison with previous census, 26. *See also* Fish.
Food products, canning and preserving, fish and oysters, value, 286. *See also* Products.
France, imports of fishery products, 292, 293.
Frogs, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
Fyke and hoop nets. *See* Nets.

Geographic divisions, summary of fisheries by, 11; persons employed, 14, 15; tonnage of vessels, 21; equipment and other capital, 22; number, tonnage, and value of vessels and boats, 23; products, 26, 29, 47–78; canning and preserving, fish and oysters, summary, 281; products, 281, 287; by-products, 282; salmon product of canneries and packing houses, 283; cod packed, 284, 285; oysters canned, 285.
Georgia, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 110–113; oysters canned, 285.
German carp. *See* Carp, German.
Germany, value of exports of domestic fishery products to, 291; of imports, 292, 293.
Gill nets. *See* Nets.
Glue, value, by geographic divisions, 281, 282; by states, 282. *See also* Fertilizer, oil, and glue.
Great Lakes and Mississippi River divisions, canning and preserving, fish and oysters, value of products, 281. *See also* Mississippi River division.
Great Lakes division, summary of statistics, 11; persons employed, by main branches of industry, 14; by lakes and rivers, 16; salaries and wages, 14; per cent of persons engaged in fishing, 15; capital invested in vessels and boats, 20, 22; average tonnage of vessels, 21, 23; number, 23; products, by species, 26; by class of fisheries and apparatus of capture, 29; canning and preserving, fish and oysters, summary, by geographic divisions, 281; value of products, 281, 287; of by-products, 282. *See also* Great Lakes and Mississippi River divisions.
Greece, imports of fishery products, 293.
Grouper, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.
Grunt, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36.
Gulf of Mexico district, fishery products of, 107, 136, 137, 183, 184.
Gulf of Mexico division, summary of statistics, 11; persons employed, salaries, and wages, by main branches of industry, 14; per cent of persons engaged in fishing, 15; capital invested in vessels and boats, 20, 22, 23; average tonnage of vessels, 21, 23; number, 23; products, by species, 26; by class of fisheries and apparatus of capture, 29; canning and preserving, fish and oysters, summary, by geographic divisions, 281; value of products, 281, 287; of by-products, 282; oysters canned, 285.

Haddock, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36; detailed statistics regarding, 56; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 281, 287. *See also* Cod, haddock, hake, and pollack.
Hake, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36; detailed statistics regarding, 57; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.
—— silver, quantity and value, by geographic divisions, 27; by apparatus of capture, 32; by states, 39. *See also* Cod, haddock, hake, and pollack.
Halibut, origin of name, 9; rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 36; detailed statistics regarding, 57; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.
Hard clams. *See* Clams.
Hard crabs. *See* Crabs.
Harpoons, spears, etc., value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 31; by states, 45.
Haul seines. *See* Seines.
Herring, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37; detailed statistics regarding, 58; exports of, 291; imports, by country from which imported, 292; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 281, 287.
—— lake, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37; detailed statistics regarding, 59; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 281, 287.
—— salt-water, rank in value, 24.
Hickory shad. *See* Shad.
Hides, alligator, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
—— porpoise, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Hides, pelts, and skins.
Hides, pelts, and skins, comparison with previous census, 26.
Hogfish. *See* Pigfish, or hogfish.
Hongkong, imports of fishery products, 292, 293.
Hoop nets. *See* Fyke and hoop nets.
Horse mackerel. *See* Albacore, or horse mackerel.

Idaho, persons employed, not including shoresmen, 18.
Illinois, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 113–120.
Imports, comparison with exports, 288; value of, 288, 290, 292; by kind of product, 292; by country from which imported, 292, 293.
Independent fishermen. *See* Proprietors and independent fishermen.
Indiana, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 120–123.
Iowa, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 124–126.
Irish moss, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44.
Italy, imports of fishery products, 292, 293.

Jack-fish. *See* Amber-fish, or jack-fish.
Japan, imports of fishery products, 292, 293.
Jewfish, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Jurel, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.

Kansas, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 126, 127.
Kentucky, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 127–130.
King crabs. *See* Crabs.
Kingfish, origin of name, 9. *See also* Whiting and kingfish.

Labrador. *See* Canada, Newfoundland, and Labrador.
Ladyfish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Lake Erie, persons employed, 12, 16; capital, and value of products, 12.
Lake Erie district, fishery products of, 172, 206, 220, 231.
Lake herring. *See* Herring.
Lake Huron, persons employed, 12, 16; capital, and value of products, 12.
Lake Huron district, fishery products of, 171.
Lake Michigan, persons employed, 12, 16; capital, and value of products, 12.
Lake Michigan district, fishery products of, 119, 123, 170, 275, 278.
Lake Ontario, including Niagara and St. Lawrence Rivers, persons employed, 12, 16; capital, and value of products, 12.
Lake Ontario district, fishery products of, 207.
Lake St. Clair and St. Clair and Detroit Rivers, persons employed, 12, 16; capital, and value of products, 12.
Lake St. Clair district, fishery products of, 172.
Lake Superior, persons employed, 12, 16; capital, and value of products, 12.
Lake Superior district, fishery products of, 171, 178, 276, 279.
Lake trout. *See* Trout.
Lines, hand, trawl, and set, value, 21, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 30; by states, 45.
Ling, or eelpout, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Livers, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
Lobster, rank in value, 24; comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41; detailed statistics regarding, 61; imports, by country from which imported, 292.
—— spiny, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41; detailed statistics regarding, 62.
Long Island Sound, fishery products of, 206.
Louisiana, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 130–137; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285; shrimp and prawn preserved, 286.

Mackerel, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37; detailed statistics regarding, 62; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287; exports of, 291; imports, by country from which imported, 292.
—— Spanish, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 39.
Maine, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 138–145; canning and preserving, fish and oysters, value of by-products, 282; sardines packed, 284; cod packed, 284, 285.
Market oysters. *See* Oysters.
Maryland, summary of fisheries, 12, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 145–152; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285.
Massachusetts, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 152–164; canning and preserving, fish and oysters, value of by-products, 282; sardines packed, 284; cod packed, 284, 285; shrimp and prawn preserved, 286.
Menhaden, origin of name, 9; rank in value, 24; comparison with previous census, 26; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37; detailed statistics regarding, 63.
Menhaden fisheries, comparison with former censuses, 10.
Mexico, value of exports of domestic fishery products to, 291; of imports, 292, 293.
Michigan, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 165–173.
Middle Atlantic states, fisheries of, 11; persons employed, salaries, and wages, 16.
Mink skins. *See* Skins.
Minnesota, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 173–178.
Minnows, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Mississippi, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 178–184; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285; shrimp and prawn preserved, 286.
Mississippi River district, fishery products of, 118, 130, 136, 177, 183, 187, 245, 275.
Mississippi River division, summary of statistics, 11; persons employed, salaries, and wages, by main branches of industry, 14; per cent of persons engaged in fishing, 15; capital invested in vessels and boats, 20, 22, 23; average tonnage of vessels, 21, 23; number, 23; products, by species, 26; by class of fisheries and apparatus of cap-

ture, 29; canning and preserving, fish and oysters, summary, by geographic divisions, 281; value of products, 287. *See also* Great Lakes and Mississippi River divisions.
Missouri, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 185–187.
Missouri River district, fishery products of, 126, 187.
Mollusks, pounds of meat per bushel, 9; rank in value, 24; comparison with previous census, 26.
Montana, persons employed, not including shoresmen, 18.
Moonfish, angel-fish, or spadefish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Motor boats. *See* Steam and motor boats.
Mullet, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37; detailed statistics regarding, 64; canned and preserved, value, by method of treatment, 286, 287; by geographic divisions, 287; quantity, 287.
Muskallunge, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Muskrat skins. *See* Skins.
Mussel shells. *See* Shells.
Mussel shells, pearls, and slugs, rank in value of product, 24; comparison with previous census, 26. *See also* Pearls and slugs.
Mussels, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42; detailed statistics regarding, 65.
Mutton-fish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.

Names, confusion in regard to, 9.
Nebraska, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 188.
Netherlands, imports of fishery products, 292, 293.
Nets, value of all classes, 21; quantity and value of products caught by, by geographic divisions, 29.
—— fyke and hoop, rank in apparatus of capture, 21; number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 31; by states, 44.
—— gill, rank in apparatus of capture, 21; number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 30; by states, 44.
—— trammel, number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 31; by states, 45. *See also* Pound nets, trap nets, and weirs.
Nevada, persons employed, not including shoresmen, 18.
New England states, fisheries of, 11; persons employed, salaries, and wages, 16
New Hampshire, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 189.
New Jersey, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 189–195; canning and preserving, fish and oysters, value of by-products, 282.
New Mexico, persons employed, not including shoresmen, 18.
New York, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 195–210; salmon product of canneries and packing houses, 283; rank in value, 283; sardines packed, 284.
Newfoundland. *See* Canada, Newfoundland, and Labrador *and* Newfoundland and Labrador.
Newfoundland and Labrador, imports of fishery products, 292, 293. *See also* Canada, Newfoundland, and Labrador.
Niagara River. *See* Lake Ontario, including Niagara and St. Lawrence Rivers.
North America, value of exports of domestic fishery products to countries of, 291; of imports, 293.
North Carolina, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 211–217; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285.
North Dakota, persons employed, not including shoresmen, 18.
Norway, imports of fishery products, 292, 293. *See also* Norway and Sweden.
Norway and Sweden, imports of fishery products, 293. *See also* Sweden.

Oceania, value of exports of domestic fishery products to, 291; of imports, 293.
Ohio, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 217–221.
Ohio River district, fishery products of, 118, 123, 129, 221.
Oil, value, by geographic divisions, 281, 282; by states, 282.
—— fish, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43; exports of, 291.
—— porpoise, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
—— sea-elephant, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44.
—— seal, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44.
—— sperm, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44.
—— whale, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44; exports of, 291.
—— whale and fish, imports, by country from which imported, 293. *See also* Fertilizer, oil, and glue.
Oklahoma, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 221.
Oregon, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 221–225; canning and preserving, fish and oysters, value of by-products, 282; salmon product of canneries and packing houses, 283; rank in value, 283; oysters canned, 285.
Otter skins. *See* Skins.
Outfit, use of term, 20; value, by geographic divisions, 23. *See also* Apparatus of capture and outfit *and* Vessels and boats, including outfit.
Oyster fisheries, comparison with former censuses, 10.
Oysters, pounds of meat per bushel, 9; length of season, 17; rank in value, 24; comparison with previous census, 26; detailed statistics regarding, 66; canned and preserved, value, by geographic divisions, 281, 287; by states, 285; by method of treatment, 286, 287; quantity, 281, 287; exports of, 291.
Oysters, market, from private and public areas, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
—— seed, from private and public areas, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.

Pacific coast district, fishery products of, 225.
Pacific coast division, summary of statistics, 11; persons employed, salaries, and wages, by main branches of industry, 14; per cent of persons engaged in fishing, 15; capital invested in vessels and boats, 20, 22, 23; average tonnage of vessels, 21, 23; number, 23; products, by species, 26; by class of fisheries and apparatus of capture, 29; canning and preserving, fish and oysters, summary, by geographic divisions, 281; value of products, 281, 287; of by-products, 282; quantity and value of salmon, 283; cod packed, 284, 285; oysters canned, 285.
Pacific Ocean district, fishery products of, 268, 270.
Paddlefish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Pearl fishing, method of, 66.
Pearls and slugs, value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Mussel shells, pearls, and slugs.
Pelts. *See* Hides, pelts, and skins.
Pennsylvania, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 225–231; cod packed, 284. *See also* Susquehanna River fisheries.
Perch, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30.
—— pike, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38; detailed statistics regarding, 68; frozen and fresh, quantity and value, by geographic divisions, 287.
—— white, quantity and value, by states, 38.
—— yellow, quantity and value, by states, 38.
Permit, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Persons employed, number, by geographic divisions, 11, 14; in Atlantic coast division, 11, 16; in states on Chesapeake Bay, 12, 16; on Great Lakes, 12, 16; salaries and wages, by geographic divisions and by main branches of industry, 14; per cent distribution, 15; comparison with former censuses, 18; detailed statistics, by states, 79–279.
Persons employed, not including shoresmen, comparison with former censuses, 18; detailed statistics, by states, 79–279.
Pickerel. *See* Pike and pickerel.
Pigfish, or hogfish, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Pike, Sacramento, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Pike and pickerel, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Pike perch. *See* Perch.
Pinfish. *See* Sailor's choice, or pinfish.

Pollack, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38; detailed statistics regarding, 69; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287. *See also* Cod, haddock, hake, and pollack.
Pompano, origin of name, 10; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Porgy, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Porkfish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Porpoise hides. *See* Hides.
Porpoise oil. *See* Oil.
Portugal, imports of fishery products, 292, 293.
Pots and traps, number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 31; by states, 45.
Pound nets, trap nets, and weirs, variation in value, 21; rank in apparatus of capture, 21; number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 30; by states, 44.
Prawn. *See* Shrimp and prawn.
Preserving. *See* Canning and preserving.
Products, comparison with former censuses, 10; value, by geographic divisions, 11, 22, 29; by Atlantic coast state groups, 11; in states on Chesapeake Bay, 12; on Great Lakes, 12; by commercial fisheries, 19; by species, 24, 26, 30, 34; by states, 25, 34, 44, 79–279; by general classes, 26; by class of fisheries, 29; by apparatus of capture, 29, 30, 44; detailed statistics, 47–78; canning and preserving, fish and oysters, by kind, 281; quantity and value, 281, 282, 287; values of imports and exports, 288; exports, by kind, 291; by country to which exported, 291; imports, by kind and country from which imported, 292. *See also* Fishery products *and* Food products.
Property. *See* Shore and accessory property and cash.
Proprietors and independent fishermen, use of term, 14; number, by geographic divisions and by main branches of industry, 14; in Atlantic coast division, 16; per cent distribution and per cent of total persons employed, 15; detailed statistics, by states, 79–279.
Purse seines. *See* Seines.

Rakes. *See* Dredges, tongs, rakes, etc.
Razor clams. *See* Clams.
Red snapper. *See* Snapper.
Redfish, or rosefish; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Rhode Island, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 231–236.
Rock bass. *See* Bass.
Rockfish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Roe. *See* Alewives and roe.
Rosefish. *See* Redfish.
Round robin, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 38.
Rowboats. *See* Boats.

Sacramento pike. *See* Pike.
Sailboats. *See* Boats.
Sailor's choice, or pinfish, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39.
St. Clair River. *See* Lake St. Clair and St. Clair and Detroit Rivers.
St. Lawrence River. *See* Lake Ontario, including Niagara and St. Lawrence Rivers.
Salaried employees, number, by geographic divisions and by main branches of industry, 14; in Atlantic coast division, 16; per cent distribution and per cent of total persons employed, 15; detailed statistics, by states, 79–279.
Salaries, amount, by geographic divisions and by main branches of industry, 14; in Atlantic coast division, 16; by states, 79–279.
Salmon, rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39; detailed statistics regarding, 69; canned and preserved, value, by geographic divisions, 281, 287; by states, 283; by method of treatment, 283, 286, 287; quantity, 281, 287; exports of, 291; imports, by country from which imported, 292.
Salt-water herring. *See* Herring.
Sardines, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39; canned and preserved, value, by geographic divisions, 281, 287; by states, 283, 284; by method of treatment, 286, 287; quantity, 281, 287. *See also* Anchovies and sardines.
Scallop rims. *See* Scallops and scallop rims.
Scallops, pounds of meat per bushel, 9; quantity and value, by geographic divisions, 28; by states, 42. *See also* Scallops and scallop rims.
Scallops and scallop rims, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 42.
Scup, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39.
Sea bass. *See* Bass.
Sea grass, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 44.
Sea robin, quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39.
Sea-elephant oil. *See* Oil.
Seal oil. *See* Oil.
Seal skins. *See* Skins.
Seed oysters. *See* Oysters.
Seines, rank in apparatus of capture, 21; number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by species, 30; by states, 44.
—— haul, rank in apparatus of capture, 21; number and value, 22.
—— purse, rank in apparatus of capture, 21; number and value, 22.
Shad, origin of name, 9; rank in value, 24; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 39; detailed statistics regarding, 71; frozen and fresh, quantity and value, by geographic divisions, 287.
—— hickory, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 30; by states, 37.
Shark, quantity and value, by geographic divisions, 27; by apparatus of capture, 32; by states, 39.
Sheepshead, origin of name, 9; quantity and value, by geographic divisions, 27; by apparatus of capture, 32; by states, 39.
Shellfish, exports of, 291.
Shells, mussel, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Mussel shells, pearls, and slugs.
Shore and accessory property, use of term, 19; value, by commercial fisheries, 19. *See also* Shore and accessory property and cash.
Shore and accessory property and cash, value, by geographic divisions, 11, 22; by Atlantic coast state groups, 11; in states on Chesapeake Bay, 12; on Great Lakes, 12. *See also* Cash.
Shore and boat fisheries, salaries and wages, 14, 16; persons employed, 14; per cent of total number, 15; number, in Atlantic coast division, 16; in Chesapeake Bay district, 16; capital invested in, 19; average tonnage of vessels, 21, 23; number and value of apparatus of capture, 22; of products, 29; detailed statistics, by states, 79–279.
Shoresmen, use of term, 14; salaries and wages, 14, 16; number employed, 14; per cent of total number, 15; number, in Atlantic coast division, 16; in Chesapeake Bay district, 16.
Shrimp and other shellfish (except lobster) and turtles, imports, by country from which imported, 292. *See also* Turtles.
Shrimp and prawn, rank in value, 24; comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41; detailed statistics regarding, 72; canned and preserved, value, by geographic divisions, 281, 287; by states, 285; by method of treatment, 286, 287; quantity, 281, 287.
Silver hake. *See* Hake.
Skates, quantity and value, by geographic divisions, 27; by apparatus of capture, 32; by states, 39.
Skins, detailed statistics regarding, 73.
—— mink, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
—— muskrat, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
—— otter, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
—— seal, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Hides, pelts, and skins.
Slides. *See* Wheels and slides.
Slugs. *See* Pearls and slugs *and* Mussel shells, pearls, and slugs.
Smelt, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 39.
Snapper, rank in value, 24; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 39; detailed statistics regarding, 74.
—— red, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 39; detailed statistics regarding, 74.
Soft clams. *See* Clams.
Soft crabs. *See* Crabs.
Sounds, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43; imports, by country from which imported, 292.
South America, value of exports of domestic fishery products to, 291; of imports, 293.
South Atlantic states, fisheries of, 11; persons employed, salaries, and wages, 16.
South Carolina, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products,

25, 34; detailed statistics, 237–241; oysters canned, 285; shrimp and prawn preserved, 286.
South Dakota, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 241, 242.
Spadefish. *See* Moonfish, angel-fish, or spadefish.
Spain, imports of fishery products, 282, 293.
Spanish mackerel. *See* Mackerel.
Spears. *See* Harpoons, spears, etc.
Sperm oil. *See* Oil.
Spider crabs. *See* Crabs.
Spiny lobster. *See* Lobster.
Sponge apparatus, value, 22; quantity and value of products caught by, by geographic divisions, 29.
Sponge fisheries, comparison with former censuses, 10.
Sponges, rank in value, 24; comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43; detailed statistics regarding, 74; exports of, 291; imports, by country from which imported, 293.
Spot, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 39.
Squeteague, rank in value, 24; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40; detailed statistics regarding, 74.
Squid, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43.
States, fisheries by, 13, 25, 47–78; persons employed, 18; capital, 19; value of apparatus of capture, 21; detail summary, 34; products, by apparatus of capture, 44; detailed statistics, 79–279; canning and preserving, fish and oysters, value of by-products, 282; salmon product of canneries and packing houses, 283; sardines packed, 284; cod packed, 284, 285; oysters canned, 285; shrimp and prawn preserved, 286.
Steam and motor boats. *See* Boats.
Stone crabs. *See* Crabs.
Strawberry bass. *See* Crappie and strawberry bass.
Striped bass. *See* Bass.
Sturgeons, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40; detailed statistics regarding, 75; smoked, and frozen and fresh, quantity and value, by geographic divisions, 287. *See also* Sturgeons and caviar.
Sturgeons and caviar, canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287. *See also* Caviar.
Suckers, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Sunfish. *See* Bream and sunfish.
Surf clams. *See* Clams.
Surf-fish, or viviparous perch, origin of name, 9; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Susquehanna River district, fishery products of, 231.
Susquehanna River fisheries, persons employed, 12, 16; capital, and value of products, 12.
Sweden, imports of fishery products, 292. *See also* Norway and Sweden.
Swordfish, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Tautog, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Tennessee, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 242–245.
Tennessee River. *See* Cumberland and Tennessee Rivers.
Terrapin, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Terrapin and turtles.
Terrapin and turtles, comparison with previous census, 26. *See also* Turtles.
Texas, summary of fisheries, 13; persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; detailed statistics, 245–250.
Tomcod, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
Tongs. *See* Dredges, tongs, rakes, etc.
Tonnage, by classes of vessels, 21; by geographic divisions, 21, 23.
Trammel nets. *See* Nets.
Transporting vessels. *See* Vessels.
Trap nets. *See* Pound nets, trap nets, and weirs.
Traps. *See* Pots and traps.
Trout, use of term, 9.
—— brook, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40.
—— lake, rank in value, 24; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 40; detailed statistics regarding, 60.
Turtles, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43. *See also* Terrapin and turtles *and* Shrimp and other shellfish (except lobster) and turtles.

United Kingdom, value of exports of domestic fishery products to, 291; of imports, 292, 293.
Utah, persons employed, not including shoresmen, 18.

Venezuela, imports of fishery products, 292.
Vermont, persons employed, not including shoresmen, 18.
Vessel crew, use of term, 14.
Vessel fisheries, salaries and wages, 14, 16; persons employed, 14; per cent of total number, 15; number, in Atlantic coast division, 16; in Chesapeake Bay district, 16; capital invested in, 19, 20; average tonnage of vessels, 21, 23; number and value of apparatus of capture, 22; of products, 29; detailed statistics, by states, 79–279.
Vessels, comparison with former censuses, 10; use of term, 19; classes of, 20; capital invested in, 20, 22; average tonnage, 21, 23; number and value, by geographic divisions, 23; detailed statistics, by states, 79–279.
—— fishing, capital invested in, 20, 22; average tonnage, 21, 23; number and value, by geographic divisions, 23.
—— transporting, salaries and wages, 14, 16; persons employed, 14; per cent of total number, 15; number, in Atlantic coast division, 16; in Chesapeake Bay district, 16; capital invested in, 20, 22; average tonnage, 21, 23; number and value, by geographic divisions, 23. *See also* Vessels, including outfit, *and* Vessels and boats, including outfit.
Vessels, including outfit, capital invested in, by geographic divisions, 22.
Vessels and boats, including outfit, value, by geographic divisions, 11; by Atlantic coast state groups, 11; in states on Chesapeake Bay, 12; on Great Lakes, 12; by commercial fisheries, 19; detailed statistics, by states, 79–279. *See also* Boats.
Virginia, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 251–262; canning and preserving, fish and oysters, value of by-products, 282; oysters canned, 285.

Wage-earners, number, by geographic divisions and by main branches of industry, 14; in Atlantic coast division, 16; per cent distribution and per cent of total persons employed, 15; general statistics regarding, 17; by states, 79–279.
Wages, amount, by geographic divisions and by main branches of industry, 14; in Atlantic coast division, 16; general statistics regarding, 17; by states, 79–279.
Washington, summary of fisheries, 13; persons employed, not including shoresmen, 18; capital, 19; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 262–270; canning and preserving, fish and oysters, value of by-products, 282; salmon product of canneries and packing houses, 283; rank in value, 283; cod packed, 284, 285; oysters canned, 285.
Weirs. *See* Pound nets, trap nets, and weirs.
West Indies, value of exports of domestic fishery products to, 291; of imports, 292, 293.
West Virginia, persons employed, not including shoresmen, 18; quantity and value of products, 25, 34; fisheries of, 270.
Whale fisheries, comparison with former censuses, 10.
Whale oil. *See* Oil.
Whale products, quantity and value, 24; comparison with previous census, 26; detailed statistics regarding, 76.
Whalebone, comparison with previous census, 26; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 43; exports of, 291; imports, by country from which imported, 293.
Whaling apparatus, quantity and value of products caught by, by geographic divisions, 29.
Wheels and slides, number and value, 22; quantity and value of products caught by, by geographic divisions, 29; by states, 45.
White bass. *See* Bass.
White perch. *See* Perch.
Whitefish, origin of name, 9; rank in value, 24; quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41; detailed statistics regarding, 77; canned and preserved, value, by geographic divisions, 281, 287; by method of treatment, 286, 287; quantity, 287.
Whiting, origin of name, 9. *See also* Whiting and kingfish.
Whiting and kingfish, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.
Winkles. *See* Cockles, winkles, and conchs.
Wisconsin, summary of fisheries, 13; persons employed, not including shoresmen, 18; value of apparatus of capture, 21; quantity and value of products, 25, 34; detailed statistics, 270–279.
Wyoming, persons employed, not including shoresmen, 18.

Yellow perch. *See* Perch.
Yellowtail, quantity and value, by geographic divisions, 28; by apparatus of capture, 32; by states, 41.

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